

ADDITIONAL MATERIALS TOWARD A MONOGRAPH OF THE GENUS
CALLICARPA. XV

Harold N. Moldenke

CALLICARPA LONGIPES Dunn

Additional bibliography: Moldenke, *Phytologia* 21: 162--164. 1971.

Additional citations: CHINA: Fukien: Ching 6668 (N); H. H. Chung 3370 (Ca--288415, Ca--420338, V--4164; Hongkong Herb. 3390 (N--photo of isotype). Kiangsi: Tsiang 10159 (N). Kwangsi: Ching 7189 (N); Wing 5681 (N). Kwangtung: Liou 884 (N); Peng, Tak, & Kin 561 [*Herb. Canton Chr. Coll.* 12560] (Ca--274993, W--1248186); Sin 10020 (N); Tsang 20762 (N), 21319 (N); Tso 20752 (N). Kweichow: Chaffanjon 2341 (N--photo, N--photo).

CALLICARPA LONGIPES var. LAUI Moldenke, *Phytologia* 8: 273. 1962.

Bibliography: Moldenke, *Phytologia* 8: 273. 1962; Moldenke, *Résumé Suppl.* 4: 8. 1962; Moldenke, *Biol. Abstr.* 39: 614. 1962; Hocking, *Excerpt. Bot. A.6*: 535. 1963.

This variety differs from the typical form of the species in having its pubescence on the petioles, leaf-blades, branches, peduncles, inflorescence-branches, pedicels, and calyx hirsute, elongate, divergent at right angles to the base, and gland-tipped.

The type of the variety was collected by S. K. Lau (no. 3927) — in whose honor it is named — at Sai Hang Cheung, near Tung Lei village, Kiennan District, Kiangsi, China, between July 28 and 30, 1934, and is deposited in the United States National Herbarium at Washington.

In all, 3 herbarium specimens, including the type, have been examined by me.

Citations: CHINA: Kiangsi: Lau 3927 (W--1752680--type), 4729 (W--1753357, Z).

CALLICARPA LONGIPETIOLATA Merr., *Philip. Gov. Lab. Bur. Bull.* 29: 47. 1905.

Synonymy: Callicarpa tomentosa var. longipetiolata (Merr.) Bakh., *Bull. Jard. Bot. Buitenz.*, ser. 3, 3: 22. 1921.

Bibliography: E. D. Merr., *Philip. Gov. Lab. Bur. Bull.* 29: 47--48 & 58. 1905; Prain, *Ind. Kew. Suppl.* 3: 32. 1908; H. J. Lam, *Verbenac. Malay. Arch.* 49, 75--76, & 362. 1919; Bakh. in Lam & Bakh., *Bull. Jard. Bot. Buitenz.*, ser. 3, 3: 21, 22, & 221. 1921; E. D. Merr., *Enum. Philip. Pl.* 3: 386. 1923; Moldenke, *Prelim. Alph. List Invalid Names* 13. 1940; Moldenke, *Alph. List Invalid Names* 11. 1942; Moldenke, *Known Geogr. Distrib. Verbenac.*, ed. 1, 62 & 87. 1942; Moldenke, *Alph. List Invalid Names Suppl.* 1: 3. 1947; Moldenke, *Known Geogr. Distrib. Verbenac.*, ed. 2, 140 & 177. 1949; Moldenke, *Alph. List Cit.* 4: 1085, 1236, & 1260. 1949; Moldenke, *Biol. Abstr.* 26: 1471. 1952; Moldenke, *Phytologia* 4: 77. 1952; Moldenke, *Résumé* 182, 245, 247, & 444. 1959; Molden-

ke, Phytologia 13: 499. 1966; Moldenke, Résumé Suppl. 16: 18. 1968.

Tree, to 15 m. tall; trunk to 31 cm. in diameter; branchlets subtetragonal, ferruginous-tomentose or -subtomentose; leaves decussate-opposite; petioles 1.7-2.6 cm. long, ferruginous-tomentose or -subtomentose; leaf-blades coriaceous or thick-chartaceous, ovate or oblong-ovate, 4-10 cm. long, 1.5-4.5 cm. wide, acute or acuminate at the apex, entire, somewhat rounded to subacute or acute at the base, stellate-hairy above when young but glabrous when adult, densely yellow-brown-tomentose beneath or subpersistently flavid-puberulent when dried; secondaries 7-9 pairs; cymes small to medium or large, in the axils of the upper leaves, 7-10 cm. long, 5.5-10 cm. wide, ferruginous-tomentose or -subtomentose; peduncles 4-5.5 cm. long, 2-3 times as long as the subtending petiole; flowers subsessile; calyx 1 mm. long, densely pilose with yellowish stellate-furfuraceous hairs, glandulose, the rim 4-toothed; corolla 3 mm. long, with 4 lines of dense simple (?) hairs, glandulose, or very densely sublanate-tomentose on the outside and on the back of the lobes, the lobes glabrous within; stamens 3.5-4.5 mm. long; anthers glandulose; style 4 mm. long; stigma capitate; ovary densely villous and glandular-punctate.

The type of this species was collected by Adolph Daniel Edward Elmer (no. 6266) on Mount Santo Tomas, in the province of Benguet, Luzon, Philippine Islands, in May of 1904, and was deposited in the herbarium of the Bureau of Science at Manila, but is now destroyed. Collectors have found this species in bloom from February to June. A black fungus is on specimens of M. S. Clemens 5882. The Vanoverbergh 1376, distributed as C. longipetiolata, is actually the type collection of its var. glabrescens Moldenke.

In all, 19 herbarium specimens, including type material of both names involved, and 2 mounted photographs have been examined by me.

Citations: PHILIPPINE ISLANDS: Luzon: M. S. Clemens 5882 (Ca-252509, Z), 9185 (Bi); Elmer 6266 (Bz-18681-isotype, N-isotype, N-photo of isotype, Z-photo of isotype), 14280 (Bi, Bz-18682, Du-176387, N, Ut-33520, Vi, W-1051134); E. D. Merrill 873 (Ut-23202, W-1133077); Sandkuhl s.n. [Herb. Philip. Forest Bur. 20428] (W-900688); J. K. Santos s.n. [Herb. Philip. Bur. Sci. 31935] (Ca-214050, N, W-1262967); J. V. Santos 5810 (W-2246767).

CALLICARPA LONGIPETIOLATA var. GLABRESCENS Moldenke, Phytologia 4: 43. 1952.

Synonymy: Callicarpa longipetala Merr. ex Moldenke, 'Alph. List Invalid Names Suppl. 1: 3, in syn. 1947.

Bibliography: Moldenke, Alph. List Invalid Names Suppl. 1: 3. 1947; Moldenke, Phytologia 4: 43 & 77. 1952; Moldenke, Biol. Abstr. 26: 1471. 1952; Moldenke, Résumé 182 & 444. 1959; Moldenke, Phytologia 13: 499. 1966; Moldenke, Résumé Suppl. 16: 18. 1968.

This variety differs from the typical form of the species in having its lower leaf-surfaces decidedly silvery, but only very sparsely furfuraceous on the larger venation when mature.

The type of the variety was collected by Father Morice Frans Jules Pieter Maria Vanoverbergh (no. 1376) in Bontoc Subprovince, Luzon, Philippine Islands, on June 30, 1914, and is deposited in the herbarium of the Botanisch Museum at Utrecht. This same collection is also the type of Merrill's C. longipetala, which I formerly (1947) regarded as typical C. longipetiolata. The plant has been collected in anthesis so far only in June. Material has been misidentified and distributed in herbaria as C. angusta Schau. and as typical C. longipetiolata Merr.

In all, 6 herbarium specimens, including type material of both names involved, and 3 mounted photographs have been examined by me.

Citations: PHILIPPINE ISLANDS: Luzon: Loher 12589 (Ca--243061); Vanoverbergh 1376 (Go--isotype, Mi--photo of isotype, N--isotype, N--photo of type, S--isotype, Ut--53633--type, Vi--isotype, Z--photo of type).

CALLICARPA LONGISSIMA (Hemsl.) Merr., Philip. Journ. Sci. Bot. 12: 108. 1917.

Synonymy: Callicarpa longifolia var. ? longissima Hemsl. in Forbes & Hemsl., Journ. Linn. Soc. Lond. Bot. 26: 253--254. 1890. Callicarpa longifolia Hance ex Hemsl. in Forbes & Hemsl., Journ. Linn. Soc. Lond. Bot. 26: 253, in syn. 1890 [not C. longifolia Auct., 1965, nor Blume, 1936, nor Diels, 1916, nor Hemsl., 1916, nor Hook., 1932, nor L., 1820, nor Lam., 1783, nor Roxb., 1827, nor Vahl, 1936, nor "sensu Hemsl.", 1949]. Callicarpa longifolia var. longissima Hemsl. apud J. Matsumura, Ind. Pl. Jap. 2 (2): 529. 1912. Callicarpa longissima Merr. apud Chung, Mem. Sci. Soc. China 1 (1): 226. 1924. Callicarpa longifolia longissima Hemsl. apud Stapf, Ind. Lond. 1: 526. 1929. Callicarpa longissima f. subglabra P'ei, Mem. Sci. Soc. China 1 (3): 50. 1932. Callicarpa taiwaniana Suzuki, Trans. Nat. Hist. Soc. Formosa 25: 130--131. 1935. Callicarpa longifolia Benth. ex Moldenke, Résumé Suppl. 3: 30, in syn. 1962. Callicarpa longifolia sensu Mori apud Li, Woody Fl. Taiwan 823, in syn. 1963.

Bibliography: Hance, Ann. Soc. Nat., ser. 5, 5: 233. 1866; Maxim., Mém. Biol. 12: 507. 1886; Forbes & Hemsl., Journ. Linn. Soc. Lond. Bot. 26: 253--254. 1890; J. Matsumura, Ind. Pl. Jap. 2 (2): 529. 1912; Hayata, Ic. Pl. Formos. 2: 125, pl. 36. 1912; Rehd. in Sarg., Pl. Wils. 3: 369. 1916; E. D. Merr., Philip. Journ. Sci. Bot. 12: 108. 1917; Nakai, Bot. Mag. Tokyo 36: 23. 1922; Chung, Mem. Sci. Soc. China 1 (1): 226. 1924; A. W. Hill, Ind. Kew. Suppl. 6: 34. 1926; T. Itô, Taiwan Shokubutu Dzusetu [Illustr. Formos. Pl.] 60h. 1927; Stapf, Ind. Lond. 1: 526. 1929; P'ei, Sinensia 2: 68. 1932; P'ei, Mem. Sci. Soc. China 1 (3): [Verbenac. China] 17, 49--50, & 55, pl. 6. 1932; Suzuki, Trans. Nat. Hist. Soc. Formos. 25: 130--131. 1935; Dop in Lecomte, Fl. Indo-Chine 4: 802.

1935; Moldenke in Fedde, Repert. Spec. Nov. 40: 98. 1936; Kanehira, Formos. Trees, ed. 2, 642, 644--645, & 716. 1936; Masamune, Short Fl. Formos. 179. 1936; A. W. Hill, Ind. Kew. Suppl. 9: 46. 1938; Moldenke, Prelim. Alph. List Invalid Names 11 & 12. 1940; Worsdell, Ind. Lond. Suppl. 1: 160. 1941; Moldenke, Known Geogr. Distrib. Verbenac., ed. 1, 56, 58, & 87. 1942; Moldenke, Alph. List Invalid Names 10. 1942; Moldenke, Phytologia 2: 68 & 94. 1945; Moldenke, Castanea 13: 120. 1948; Moldenke, Alph. List Cit. 2: 634 (1948), 3: 657, 666, 727, & 770 (1949), and 4: 1010, 1011, & 1228. 1949; Moldenke, Known Geogr. Distrib. Verbenac., ed. 2, 131, 133, 135, & 177. 1949; Chang, Act. Phytotax. Sin. 1: 280, 285, 293, 308, 310, & 311. 1951; Moldenke, Résumé 168, 171, 174, 244, 245, & 444. 1959; Liu, Illustr. Nat. & Introd. Lign. Pl. Taiwan 2: 1207, pl. 1015. 1962; Moldenke, Résumé Suppl. 3: 18 & 30. 1962; Li, Woody Fl. Taiwan 819, 823, & 944. 1963; Moldenke, Résumé Suppl. 8: 3 (1964) and 14: 7. 1966; Moldenke, Phytologia 14: 55, 58, 99, 102, 104, & 171--172 (1966), 15: 38 (1967), 16: 371 & 373 (1968), 20: 490 (1971), and 21: 48, 102, 109, & 113. 1971.

Illustrations: Hayata, Ic. Pl. Formos. 2: pl. 36. 1912; T. Itô, Taiwan Shokubutu Dzusetu [Illustr. Formos. Pl.] 604. 1927; P'ei, Mem. Sci. Soc. China 1 (3): [Verbenac. China] pl. 6. 1932; Liu, Illustr. Nat. & Introd. Lign. Pl. Taiwan 2: pl. 1015. 1962.

Woody herb or erect bush, densely bushy shrub, or small tree, 1--10 m. tall, glabrous and shiny almost throughout; trunk to 7.5 cm. in diameter; bark gray; branches green, often with a ring of long villous hairs at the nodes; leaves decussate-opposite; petioles 0.7--1.5 cm. long; leaf-blades chartaceous, somber-green above, lighter beneath, ovate-lanceolate or elliptic-lanceolate to lanceolate or conspicuously and narrowly elongate-lanceolate, 12--23 cm. long, 2--5.5 cm. wide, entire or crenately serrate, glabrous or subglabrous to pubescent with stellate hairs above (especially along the venation), sparsely golden-pulverulent and with a few large glands beneath or glabrous; secondaries 13 or 14 per side; cymes distinctly pedunculate, the peduncles about 2 cm. long; flowers minute; calyx 1 mm. long, sparsely glandulose on the outer surface, glabrous within, its rim truncate, with 4 rudimentary teeth; corolla red or pink to purple, sometimes yellowish-white or white, sparsely pubescent and glandulose outside, its tube about 1 mm. long, glabrous, the limb 4-lobed, the lobes sparsely pubescent within; stamens exerted; filaments nearly 3 times as long as the corolla-tube; style surpassing the stamens; ovary glandulose; fruit subglobose, about 2 mm. in diameter, green when immature, white when ripe, glandulose.

Merrill (1917) comments that "The type of Hemsley's variety was from near Canton, and is the form interpreted by Hance and by Maximowicz as Callicarpa longifolia Lam. Lamarck's type was from Malacca, and Callicarpa longifolia Lam. is a species entirely distinct from this Chinese form; Hemsley states that his var. longissima stands out very distinctly from all others (i.e., other forms of Callicarpa longifolia Lam.) and should perhaps be raised to be specific rank. It is distinguished from Lamarck's species by its

narrow, elongated, nearly glabrous, entire or but very minutely toothed leaves, its smaller flowers, and other characters. In some respects it approaches the Philippine Callicarpa dolichophylla Merr., from which it is distinguished by its vegetative characters."

The C. longifolia accredited to "Auct.", to Blume, to Linnaeus, to Roxburgh, and to Vahl in the synonymy given above is C. longifolia Lam., a valid species, that accredited to Diels is C. bodinieri var. giraldii (Hesse) Rehd., that accredited to Hooker is C. brevipes (Benth.) Hance, that accredited to "sensu Hemsl." is C. japonica var. angustata Rehd., while that attributed to Hemsley is in part C. bodinieri var. giraldii and in part C. japonica var. angustata.

According to P'ei (1932) "Hemsley's original description is as follows: 'Fere undique glabra mitidaque, foliis valde longatis anguste lanceolatis usque 9 poll. longis, subtus pallidioribus parce aureo-pulverulentis ceterum glabris, cymis distincte pedunculatis, floribus minutis. — C. longifolia Hance in Ann. Sc. Nat. 5me série, v. p. 233 et Maxim. in Mém. Biol. XII. p. 507. VIX lam. Kwangtung: near Canton (Hance 49561) Mus. Brit. Herb. Kew. Variable as C. longifolia is as limited here and in the "Flora of British India", the present form stands out very distinctly from all the others and should perhaps be raised to specific rank.'" He cites Chang 4544, Chung 2477 & 2800, Ging 7212, 7294, & 15778, and Po 42049 from Fukien, McClure 3454 from Kiangsi, Ching 7738 from Kwangsi, Chun 6922 from Kwangtung, Tsang 810 from Hainan Island, and Herb. Canton Chr. Coll. 238 and E. D. Merrill 9986 from Honam Island. He says further "Callicarpa longissima (Hemsl.) Merr. has nearly glabrous leaves except for the long villose hairs along the veins on the upper surface, and a ring of long hairs at each node of the branchlets. It is related to Callicarpa longifolia Lam. and C. brevipes Hance differing from the former by its leaves being glabrous beneath, and pubescent above only along the veins; from the later by its attenuate leaf-base; and from both by its long narrow leaves." His C. longissima f. subglabra is described by him as follows: "A typo differt foliis subglabris, ovato-lanceolatis ad elliptico-lanceolatis, 12.5 to 20 cm. longis 3 to 4.7 cm. latis, nodis band barbatis. Kwangtung: Lungtau Mt., near Iu, Peng (To), Tak (Ts'ang) and Kin (Ts'ang) 2961, May 1924, 'Shrub 4 feet tall, flowers white and yellow'; same locality, Peng (To), Tak (Ts'ang) and Kin (Ts'ang) 5571, June 1924, 'Flowers yellowish white'; North River, near Fungwanhu, Peng (To), Tak (Ts'ang) and Kin (Ts'ang) 8261, July 1924, 'Flowers white'. This differs from the type by its leaves being glabrous above and subglabrous beneath. There is no ring of long hairs at the nodes of the branchlets."

The type of C. taiwaniana was collected by Sigetaka Suzuki (no. 5945) at Sankyaku and Suigen, Formosa, and is deposited in the her-

barium of the National Taiwan University.

Chang (1951) maintains C. longissima, C. longissima f. subglabra, and C. taiwaniana as three distinct and valid taxa, although he seems not to be entirely certain about the last-named of these. For C. longissima in what he regards as its typical form he cites H. Green s.n. and nos. 15, 60, 61, 443, 365, 810, 1785, 4752, 5826, 6922, 6996, 7680, 7738, 9903, 9942, 13591, 16309, 22350, 23063, 25112, 27187, 28236, 30204, 37772, & 72815 of collectors and/or herbaria whose names, unfortunately, he gives only in Chinese characters. He compares it with C. dolichophylla Merr.

For what he regards as C. longissima f. subglabra Chang cites nos. 774, 1801, 4084, 20015, 22628, 24001, 26827, 29033, 30946, 55338, 72465, 84765, & 84994 of collectors and/or herbaria whose names, again, he gives only in Chinese characters.

Recent collectors have found C. longissima growing on hillsides, wooded hillsides, low slopes, and dry land, in forests, wooded places, thickets, and dry places by the sides of houses, and at pondsides, at altitudes of 10 to 1600 meters, flowering from May to August and in October, and fruiting from September to March. Ching describes it as "common" in Kwangsi; Lau found it to be "fairly common on dry steep slope in sandy soil of rocky forest" on Hainan Island; and Tsang describes it as "fairly common in village commons in dry sandy soil and silt" in Kwangsi. E. D. Merrill 9986 is said to be a topotype.

Vernacular names for the plant appear to be "bok wat tan", "fat fung shu", "long-leaved beauty-berry", and "taai tsin mi fung". The corolla is described as "red" on W. T. Tsang 22628, "pink" on H. H. Chung 2800 and F. C. How 72815, "purple" on R. C. Ching 7738, "green" on H. H. Chung 2477, "white and yellow" on Peng, Tak, & Kin 296, "yellowish-white" on Peng, Tak, & Kin 557, and "white" on Peng, Tak, & Kin 826.

Callicarpa longissima closely resembles C. brevipes f. serrulata P'ei, but the latter has serrate or serrulate leaf-blades, whereas in C. longissima the leaf-blades are entire or subentire. Some specimens (e.g., R. C. Ching 6996) also greatly resemble the M. Ramos 2037 collection which is regarded by me as representing C. dolichophylla Merr. Li (1963) cites H. H. Bartlett 6082, Nakahara s.n., Sasaki s.n., Suzuki 5945, and E. H. Wilson 9821 & 10108 from Formosa.

Material of this species has been misidentified and distributed in herbaria as C. brevipes (Benth.) Hance, C. longifolia Lam., and Clerodendron sp. On the other hand, the H. H. Bartlett 6082, cited by Li and distributed as C. longissima, is actually C. randaiensis Hayata. It is probable that the other Formosan material cited by Li also represents that species.

In all, 38 herbarium specimens and one mounted photograph have been examined by me.

Citations: CHINA: Fukien: T. C. Chang 4544 (Ca--303271); H. H. Chung 2477 (Ca--233064), 2800 (Ca--243756); Ging 7212 (Ca--322261), 7294 (Ca--322357), 15778 (Ca--342188); Po 12049 (Ca--325897). Kiangsi: F. A. McClure 3454 [Herb. Lingnan Univ. 15316] (Ca--319928). Kwangsi: R. C. Ching 6996 (N), 7738 (Ca--410284, N, W--1248679); W. T. Tsang 22628 (S). Kwangtung: Peng, Tak, & Kin 296 [Herb. Canton Chr. Coll. 12295] (W--1247648), 557 [Herb. Canton Chr. Coll. 12556] (Ca--275009, W--1248182), 826 [Herb. Canton Chr. Coll. 12825] (W--1248035). Province undetermined: Nevin s.n. [China] (Du--90911). CHINESE COASTAL ISLANDS: Hainan: F. C. How 72815 (Bi, S); Lau 3282 (Bi, S); W. T. Tsang 810 [Herb. Lingnan Univ. 16309] (Ca--326101, N, S, W--1249811). Honam: Dahlström 486 (S); C. O. Levine s.n. [Herb. Canton Chr. Coll. 238] (Io, W--778597); E. D. Merrill 9986 (Ca--992456, Gg--31976, N--photo, Ph). FORMOSA: E. H. Wilson 10108 (W--1052933, W--1052934). CULTIVATED: China: Chun 6922 (Bz--18069, Bz--18070, N); Hom A.354 (N).

CALLICARPA LUTEOPUNCTATA Chang, Acta Phytotax. Sin. 1: 292. 1951.

Bibliography: H.-T. Chang, Acta Phytotax Sin. 1: 272, 280, 292, 310, & 311. 1951; G. Taylor, Ind. Kew. Suppl. 13: 21. 1966; Moldenke, Résumé Suppl. 14: 3. 1966.

Chang (1951) describes this species as follows: "Frutex circ. 2 m altus. Ramuli hornotini teretes fulvo-brunnei farinoso-stellato-lepidoti, annotini brunnei lenticellati glabri. Folia membranacea oblonga, 7--12 cm longa 2--4 cm lata, apice acuta vel breviter acuminata, basi in petiolum longissime attenuata, utrinque glabra lucide aureo-glandulosa, in sicco supra brunneo-viridia, subtus fulvo-viridia ad costam nervosque laterales parcissime farinoso-stellato-puberula, margine in parte 3/4 superiore irregulariter serrulata; nervi laterales utrinsecus 8--11 supra plani subtus elevati; petioli 1--1.5 cm longi. Cymae axillares graciles 2 cm longae, 2--3 cm latae, quinques dichotomae, pedunculis 4--7 mm longis, pedicellis 1--1.5 mm longis; bractee subulatae 2 mm longae; calyx 0.7 mm longus truncatus farinosus et glandulosus, lobis inconspicuis; corolla violaceo-purpurea glabra, tubo 1 mm longo, lobis 0.4 mm longis; stamina longe exserta, filamentis 3 mm longis, antheris ovalibus 0.4 mm longis longitudinaliter dehiscentibus; ovarium punctatum glabrum, stylo stamina subaequante. Fructus 1 mm diametro punctatus."

The species is based on W. P. Fang 17252 from Szechuan, deposited in the herbarium of the Botanical Institute of Sunyatsen University, Canton, China. From the same province is cited W. P. Fang 17200, while from Yunnan Chang cites E. E. Maire 34 and H. T. Tsai 51132. He compares the species with C. bodinieri var. giraldii (Hesse) Rehd. and C. longifolia Lam., but in Chinese.

CALLICARPA MACROPHYLLA Vahl, Symb. Bot. 3: 13, pl. 53. 1794.

Synonymy: *Callicarpa tomentosa* König ex Vahl, Symb. Bot. 3: 13, in syn. ["*Callicarpae tomentosae*"]. 1794; Jacks. in Hook. f. &

Jacks., Ind. Kew., pr. 1, 1: 386, in syn. 1893 [not C. tomentosa Auct., 1962, nor Bakh., 1932, nor Hook. & Arn., 1918, nor "L. ex Moldenke", 1959, nor "L. ex Spreng.", 1825, nor "L. ex Willd.", 1966, nor (L.) Murr., 1774, nor (L.) Santapau, 1965, nor Lam., 1783, nor Murr., 1893, nor Thunb., 1959, nor Willd., 1809, nor "sensu auct. Japon.", 1965, nor "sensu Matsum.", 1964, nor "sensu Matsum. & Hayata", 1963]. Callicarpa foliis lanceolato-ellipticis crenatis attenuatis, supra rugosis subtus ramisque tomentosoincans Vahl ex Willd., Linn. Sp. Pl. 1: 620, in syn. 1797. Callicarpa incana Roxb., Hort. Beng. [10], hyponym. 1814; Wall. in Roxb., Fl. Ind., ed. 1 [Carey & Wall.], 1: 407—408. 1820 [not C. incana (Turcz.) Moldenke, 1934, nor (F.) Moldenke, 1953]. Callicarpa roxburghii Wall., Numer. List [50] (as "49"). 1829 [not C. roxburghii H. J. Lam, 1948, nor Schau., 1890, nor "Wall. ex Schau.", 1968, nor "Wall. ex Walp.", 1968]. Callicarpa cana Gamble ex C. B. Clarke in Hook. f., Fl. Brit. Ind. 4: 568, in syn. 1885 [not C. cana Dalz. & Gibs., 1919, nor L., 1771, nor Spreng., 1966, nor Vahl, 1866, nor Wall., 1863]. Callicarpa macrophylla var. incana Roxb. ex Kuntze, Rev. Gen. Pl. 2: 503. 1891. Callicarpa dunniana Léveillé in Fedde, Repert. Spec. Nov. 9: 456. 1911. Callicarpa macrophylla var. kouytchensis Léveillé, Fl. Kouytchéou 440, hyponym. 1915. Callicarpa tomentosa Vahl apud H. J. Lam, Verbenac. Malay. Arch. [371]. 1919. Callicarpa macrophylla Vahl ex Moldenke, Alph. List Invalid Names Suppl. 1: 3, in syn. 1947. Callicarpa carnea Hort. ex Moldenke, Résumé 242, in syn. 1959. Callicarpa macrophylla Roxb. ex Moldenke, Résumé 245, in syn. 1959. Callicarpa macrophylla Wall. ex Moldenke, Résumé 245, in syn. 1959. Callicarpa tomentosa "Koen. ex Vahl" apud Balakrishnan, Bull. Bot. Surv. India 6: 81 & 87. 1964.

Bibliography: Vahl, Symb. Bot. 3: 13, pl. 53. 1794; Willd., Linn. Sp. Pl. 1: 620. 1797; W. T. Ait., Hort. Kew., ed. 2, 1: 247. 1810; Roxb., Hort. Beng. [10]. 1814; H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: 205 (1817) and ed. quart., 2: 253. 1818; Roem. & Schult. in L., Syst. Veg., ed. 15 nov., 94—95. 1818; Wall. in Roxb., Fl. Ind., ed. 1 [Carey & Wall.], 1: 407—408 & 481. 1820; Steud., Nom. Bot., ed. 1, 137. 1821; Kunth, Syn. Pl. Aequinoct. 2: 45. 1823; Spreng. in L., Syst. Veg., ed. 16, 1: 420. 1825; J. A. & J. H. Schultes, Mant. 3: 51 & 53. 1827; Spreng. in L., Syst. Veg., ed. 16, 5: 126. 1828; Wall., Numer. List [50] (as "49"). 1829; Roxb., Fl. Ind., ed. 2 [Carey], 1: 393—394. 1832; Royle, Ill. Bot. Himal. 299. 1836; Bojer, Hort. Maurit. 258. 1837; D. Dietr., Syn. Pl. 1: 428 & 429. 1839; Dillwyn, Rev. Ref. Hort. Malab. 19. 1839; Steud., Nom. Bot., ed. 2, 137. 1840; Walp., Repert. Bot. Syst. 4: 126 & 127. 1845; Schau. in A. DC., Prodr. 11: 644. 1847; Jacques & Hérincq, Man. Gén. Pl. Arb. & Arbust. [Fl. Jard. Eur.] 3: 503. 1851; Champ. & Hook. in Hook., Journ. Bot. & Kew Gard. Misc. 5: 135. 1853; Mason, Burmah, ed. 2, 792. 1860; Benth., Fl. Hongk. 270. 1861; Rosenth., Syn. Pl. Diaph. 1130.

1862; Bocq., *Adansonia* 3: 192. 1863; Bocq., *Rév. Verbenac.* 192. 1863; Pritz., *Ic. Bot. Ind.* 1: 188. 1866; Hassk., *Hort. Malab.* Rheed. *Clav.* 38. 1867; Brandis, *For. Fl. NW. & Cent. India* 3: 368. 1874; Roxb., *Fl. Ind.*, ed. 3 [C. B. Clarke], 131—132. 1874; S. Kurz, *For. Fl. Brit. Burma* 2: 274. 1877; Gamble, *List Trees Darjeeling Dist.* 60. 1878; Gamble, *Man. Ind. Timb.*, ed. 1, 282 & 283. 1881; Watt, *Econ. Prod. India* 5: 68. 1883; E. Balf., *Cyclop. Ind.*, ed. 3, 1: 550. 1885; C. B. Clarke in Hook. f., *Fl. Brit. Ind.* 4: 568. 1885; Maxim., *Méi. Biol.* 12: 505. 1886; Campbell & Watt, *Descrip. Econom. Prod. Chutia Nagpur* 41. 1886; Watt, *Dict. Econ. Prod. India* 2: 26 & 27. 1887; K. Schum. & Hollr., *Fl. Kaiser Wilh.-land* 118—119. 1889; N. E. Br. in Johnson, *Gard. Dict.* 157. 1890; Forbes & Hemsl., *Journ. Linn. Soc. Lond. Bot.* 26: 254 & 255. 1890; Warb. in Engl., *Bot. Jahrb.* 13: 426. 1891; Kuntze, *Rev. Gen. Pl.* 2: 503. 1891; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, pr. 1, 1: 386. 1893; J. L. Stewart, *Punjab Pl.* 165. 1899; K. Schum. & Lauterb., *Fl. Deutsch. Schutzgeb. Südsee* 522. 1900; Barnhart, *Bull. Torrey Bot. Club* 29: 590. 1902; Collett, *Fl. Siml.* 380. 1902; Wood, *Rec. Bot. Surv. India* 2: 21 & 129. 1902; Gamble, *Man. Ind. Timb.*, ed. 2, 525—526. 1902; Prain, *Bengal Pl.*, ed. 1, 827 & 828. 1903; Prain, *Rec. Bot. Surv. India* 3: 260. 1905; Brandis, *Ind. Trees* 512. 1906; Strachey, *Cat. Pl. Kumaon* 136. 1906; Duthie, *Fl. Upper Gang. Plain* 2: 219. 1911; Léveillé in Fedde, *Repert. Spec. Nov.* 9: 456. 1911; Gerth van Wijk, *Dict. Plantnames* 1: 217. 1911; Dunn & Tutchet, *Kew Bull. Misc. Inf. Addit. Ser.* 10: 202. 1912; Fedde, *Repert. Spec. Nov. Gesamtverz.* 58. 1914; Léveillé, *Fl. Kouy-Tchéou* 440. 1916; Gerth van Wijk, *Dict. Plantnames* 2: 1534. 1916; Basu, *Ind. Medic. Pl.* 3: 3, pl. 734. 1918; R. N. Parker, *For. Fl.* 397. 1918; H. J. Lam, *Verbenac. Malay. Arch.* 57, 58, & 65. 1919; Bakh. in Lam & Bakh., *Bull. Jard. Bot. Buitenz.*, ser. 3, 3: 11 & 23. 1921; Prain, *Ind. Kew. Suppl.* 5, pr. 1, 43. 1921; Haines, *Bot. Bihar & Orissa* 4: 709 & 710. 1922; Chung, *Mem. Sci. Soc. China* 1 (1): 226. 1924; J. M. Cowan, *Rec. Bot. Surv. India* 12: 68. 1929; Stapf, *Ind. Lond.* 1: 526. 1929; P'ei, *Mem. Sci. Soc. China* 1 (3): [Verbenac. China] 15, 18, 19, 23—25, 42, & 43. 1932; P'ei, *Sinensia* 2: 66. 1932; P. Dop, *Bull. Soc. Hist. Nat. Toulouse* 64: 500, 505, 506, 511, & 512, 1932; Rehd., *Journ. Arnold Arb.* 15: 320 & 321. 1934; Junell, *Symb. Bot. Upsal.* 4: 81 & 82, fig. 128—132. 1934; E. D. Merr., *Trans. Am. Philos. Soc.*, new ser., 24: 332—333. 1935; Moldenke in Fedde, *Repert. Spec. Nov.* 39: 303 (1936) and 40: 41, 104—106, 108, 113, 114, 120, 124, 125, 127, 128, & 130. 1936; K. V. O. Dahlgren, *Svensk. Bot. Tidsk.* 32: 231. 1938; Fletcher, *Kew Bull. Misc. Inf.* 1938: 412 & 414. 1938; A. W. Hill, *Ind. Kew. Suppl.* 9: 45. 1938; Moldenke, *Alph. List Common Vern. Names* 6, 21, 30, & 31. 1939; Moldenke, *Geogr. Distrib. Avicenn.* 36. 1939; Moldenke, *Suppl. List Common Vern. Names* 3, 7, 14, 17, & 20—22. 1940; Moldenke, *Prelim. Alph. List Invalid Names* 9—13. 1940; Biswas, *Indian Forest Rec. Bot.*, new ser., 3: 41. 1941; Moldenke, *Known Geogr. Distrib. Verbenac.*, ed. 1, 53—56, 58, 67, 71, & 87. 1942; Moldenke, *Alph. List Invalid Names* 8, 10, & 11. 1942; Moldenke, *Phytologia* 2: 82 & 94. 1945; E. D. Merr., *Trans. Am. Philos. Soc.*, new ser., 24 (2):

[Comm. Lour.] 332—333. 1945; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 386. 1946; Moldenke, Alph. List Cit. 1: 48, 119, 248, 284, & 288. 1946; Moldenke, Alph. List Invalid Names Suppl. 1: 3. 1947; Neal, In Gard. Hawaii, ed. 1, 640. 1948; H. N. & A. L. Moldenke, Pl. Life 2: 57 & 62. 1948; Moldenke, Alph. List Cit. 2: 355, 359, 408, 432—434, 487, 534, 562, 563, 565, 580, 614, & 634 (1948), 3: 708, 774, 798, 828, 878, 936, 971, & 978 (1949), and 4: 1018, 1096, 1102, 1103, & 1251. 1949; Moldenke, Known Geogr. Distrib. Verbenac., ed. 2, 123—125, 128, 131, 135, 148, 157, & 177. 1949; Moldenke, Phytologia 3: 139 (1949) and 3: 294. 1950; H.-T. Chang, Act. Phytotax. Sin. 1: 277—279, 283—284, 308, & 311. 1951; Moldenke, Phytologia 4: 121 & 124 (1952) and 4: 268. 1953; Moldenke, Journ. Calif. Hort. Soc. 15: 85. 1954; Moldenke in Humbert, Fl. Madag. 174: 45 & 48. 1956; T. A. Rao, Bull. Bot. Surv. India 1: 114. 1959; Moldenke, Résumé 155, 157—160, 165, 168, 174, 177, 200, 213, 242, 243, 245, 247, 248, & 444. 1959; Anon., Kew Bull. Gen. Index 1929—1956, p. 59. 1959; Kikamura, Fauna & Fl. Nepal 208—209. 1959; Puri, Indian Forest Ecol. 1: 215 & 228 (1960) and 2: 670. 1960; Prain, Ind. Kew. Suppl. 5, pr. 2, 43. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 386. 1960; Nath, Bot. Surv. South. Shan States 144. 1960; Deb, Bull. Bot. Surv. India 3: 314. 1961; Nair & Rehman, Bull. Nat. Bot. Gard. Lucknow 76: 13. 1962; Moldenke, Résumé Suppl. 3: 16 & 28. 1962; Sharma & Mukhopadhyay, Journ. Genet. 58: 359, 371, 375, & 384, pl. 12, fig. 49 & 50. 1963; Maheshwari, Fl. Delhi 280 & 281. 1963; Prain, Bengal Pl., ed. 2, 2: 617 & 618. 1963; Cave, Ind. Pl. Chromosome Numb. 2: 330. 1964; Panigrahi, Chowdhury, Raju, & Deka, Bull. Bot. Surv. India 6: 255. 1964; Padmanabhan, Phytomorph. 14: 449. 1964; T. A. Rao, Bull. Bot. Surv. India 6: 47. 1964; Balakrishnan, Bull. Bot. Surv. India 6: 81, 82, & 86—87. 1964; Dakshini, Journ. Indian Bot. Soc. 44: 418 & 419. 1965; Backer & Bakh., Fl. Java 2: 600—601. 1965; Datta, Handb. Syst. Bot. 181. 1965; Sen & Naskar, Bull. Bot. Surv. India 7: 38. 1965; P. K. K. Nair, Pollen Gr. West. Himal. Pl. 35 & 89, pl. 12, fig. 154. 1965; Moldenke, Phytologia 13: 437 & 502 (1966) and 14: 37, 38, 107, 111, 114, 115, 142, 143, 149, & 150. 1966; Panigrahi & Joseph, Bull. Bot. Surv. India 8: 143 & 151. 1966; Thothathri, Shetty, & Hazra, Bull. Bot. Surv. India 8: 133 & 138. 1966; Yamazaki in Hara, Fl. East. Himal. 268. 1966; Moldenke, Résumé Suppl. 14: 6 & 7 (1966) and 15: 8. 1967; R. K. Gupta, Season. Fl. Ind. Sum. Resorts Moos. 132, 154, & 241. 1967; Tingle, Check List Hong Kong Fl. 37. 1967; R. R. Stewart, Pakistan Journ. Forest. 17: 515. 1967; Moldenke, Phytologia 14: 225 & 244—246 (1967), 15: 30 (1967), and 16: 360, 362, 364, 380—382, 384—388, 447, & 454. 1968; Uniyal, Indian Forest. 94: 415. 1968; S. P. & R. N. Banerjee, Bull. Bot. Surv. India 10: 187. 1968; Moldenke, Résumé Suppl. 16: 8, 9, 13, & 18. 1968; M. A. Rau, Bull. Bot. Surv. India 10, Suppl. 2: 61. 1969; Kapoor, Singh, Kapoor, & Srivastava, Lloydia 32: 303. 1969; Farnsworth, Pharmacog. Titles 5 (11): iii & item 1140. 1970; Moldenke, Phytologia 20: 495 (1971) and 21: 49, 50, 102, 103, 108, & 109. 1971.

Illustrations: Vahl, Symb. Bot. 3: pl. 53. 1794; Basu, Ind.

Med. Pl. 3: pl. 734. 1918; Junell, Symb. Bot. Upsal. 4: 82, fig. 128--132. 1934; Sharma & Mukhopadhyay, Journ. Genet. 58: 384, pl. 12, fig. 49 & 50. 1963; P. K. K. Nair, Pollen Gr. West. Himal. Pl. 89, pl. 12, fig. 154. 1965.

Bush, undershrub, or large, robust, bushy, many-stemmed shrub, 1--6 m. tall, or tree, 7 m. tall; trunk 2 cm. in diameter; branches stout, subterete, tomentose or densely canescent-tomentose at the tips, becoming glabrate in age, with scattered elliptic and prominently elevated lenticels, often bearing many old fruiting cymes at the nodes; branchlets stout, obtusely tetragonal or subterete, extremely densely matted-tomentose with canescent and many-branched hairs; principal internodes variable in length, 1.1--8 cm. long; leaves decussate-opposite; petioles very stout, 6--20 mm. long, canaliculate above, densely matted-tomentose like the branchlets; leaf-blades chartaceous, rather dark-green or pale-green and velvety above, tawny and densely stellate-woolly or whitish beneath, oblong or oblong-ovate, 6--23 cm. long, 2.5--9.7 cm. wide, acute or acuminate at the apex, rather uniformly and more or less shallowly serrate with rather sharp teeth along the margins (except at the base), acute or somewhat cuneate at the base, roughened-pilose above with minute hairs or tomentose when very immature, occasionally somewhat areolate, very densely grayish- or sordid-tomentose with matted many-branched hairs beneath; midrib stout, somewhat tomentose above (especially at the base), very densely tomentose and prominent beneath; secondaries slender, 7--15 or more per side, arcuate-ascending, prominent beneath, often slightly prominulent above; vein and veinlet reticulation fine, conspicuous; inflorescence axillary, large; cymes decussate, solitary, often very numerous, large or very large and spreading, 4--20 cm. long, 7--17 cm. wide, usually densely many-flowered, very spreading-dichotomous (often 8 times furcate!), very angulate, often forming a dense mass around the branchlets by the spreading and more or less reflexed dichotomies, bracteolate; peduncles stout (often incrassate in fruit), 1.3--2.6 cm. long, densely matted-tomentose like the branchlets, becoming merely furfuraceous in age; pedicels essentially obsolete or exceedingly short; bractlets linear or broadly linear, 3--10 mm. long, densely sordid-tomentose; prophylla minute, setaceous; flowers conspicuous, fragrant; calyx oblong-campanulate, 1.3--1.6 mm. long, 1--1.3 mm. wide, loosely pubescent and granular-pulverulent, its rim conspicuously 4-toothed; corolla hypocrateriform, purple or lilac, glabrous outside or with some hairs, its tube narrow-cylindric, 1--2 mm. long, its limb 4-parted, the lobes ovate-lingulate, about 0.9 mm. long and 0.8 mm. wide, subacute at the apex; stamens 4, inserted at the very base of the corolla-tube, exserted; filaments filiform, about 3.6 mm. long, glabrous; anthers broadly oblong, about 0.5 mm. long and 0.4 mm. wide; pollen-grains spheroidal, 3-zonocolpate, subprolate, $32 \times 25 \mu$ or "diameter 35μ , range $32-39 \mu$ ", the exine 1.4μ thick, the ectine surface slightly reticulate (wavy) or areolate with faint areoles; pistil exserted and surpassing the stamens (in ♀); style capillary, about 6 mm. long, glabrous, ampliate above into the stigma; stigma

depressed-capitate, about 0.2 mm. wide; ovary subrotund, about 0.7 mm. long and wide, densely granulose-pulverulent, 4-celled; fruiting-calyx very shallowly cupuliform or practically patelliform, about 2 mm. wide, loosely pubescent, its rim 4-toothed; fruit small, subglobose, white when ripe, about 2 mm. long and wide, pulverulent or glabrate, conspicuously 4-seeded; chromosome number: $2n = 34$.

This species is native from China southward into Nepal, Bhutan, India, Burma, and Hongkong, and east to New Guinea. It has been introduced in Réunion and Madagascar and is also widely cultivated elsewhere. The corolla is described as "pink" on Pradham & Ihapa 4497 and T. A. Rao 7201, "red" on Steward & Cheo 876, "purple" on A. Henry 9262, "purplish-pink" on Winit 1152, "blue" on Tsiang 6371, "red and purple" on G. W. Groff 10, and "violet" on Larsen, Santisuk, & Warncke 2774. As usual, one wonders if the color of the corolla really varies so much or if it is merely a matter of interpretation and definition of color by the collector.

Collectors have found the species growing on hillsides, in sandy riverbeds, ricefields, forests, deep forests, and valley forests, in thick jungles, bamboo shrubbery, thickets, open scrub, and waste places about villages, and on open slopes, from sealevel to 2000 meters altitude, flowering from May to October, as well as from January to March, and fruiting from October to February and in August. Rao (1959) refers to the species as "a large herb" with the flowers "in dense spikes" [which is obviously an error!] and cites Rao 7201. Dakshini (1965) reports this plant as one of the major constituents of the "poor shrubbery layer", the "shrub story on slopes", and "in moist soil of swamps" in the Dehra Dun region of India, where he says that the species is common. Juan reports it as "rare" in Upper Burma and Ching calls it "rare" in Kwangsi. Panigrahi & Joseph (1966) aver that it is abundant in thick evergreen forests in Nefa and cite their no. 16728, while Thothathri and his associates (1966) report it as common near plantations in Bihar and cite Shetty 180.

The Banerjees (1968) also record C. macrophylla from Bihar, while Gupta (1967) and Uniyal (1968) found it growing in Uttar Pradesh. Yamazaki (1966) gives its overall distribution as "Himalaya (Kashmir to Assam), Bengal, Burma, Indo-China, and S. China". Maheshwari (1963) tells us that it is "Cultivated as a hedge plant in gardens" in the Delhi region and cites J. K. Maheshwari 218. He describes the plant as "An erect shrub up to 3 m. tall. Branches, lower surface of leaves and inflorescences densely stellate-woolly. Leaves up to 22 x 7 cm., ovate, elliptic or ovate-lanceolate, coarsely crenate-serrate. Flowers rose-coloured, crowded in dense, dichotomous cymes. Drupes white," flowering from June to September. Gupta (1967) describes the corollas as "pink". Prain (1903) calls the plant "A shrub 3—8 feet high", growing "In all the provinces" of Bengal. Uniyal (1968) calls it a "small drooping shrub with purple flowers growing commonly in shade at 900 m." He cites Uniyal 3800 and notes that "a very small quantity is collected and

consumed locally, the seed-paste being used for mouth ulcers" in Uttar Pradesh. In the same state Puri (1960) tells us that C. macrophylla grows in the third story in edaphic Gangetic tropical moist deciduous river rainforests in the sub-Himalayan tract under a canopy of Bombax malabaricum and Gmelina arborea, and also that it inhabits riverbeds and grows along streams in swamp-edaphic forests on clay beds with 100 inches of annual rainfall which goes underground and then oozes out, making small streams. These are mixed forests mainly consisting of Bischofia javanica. He also tells us that the species is considered to be good fodder in the states of Punjab, Pepsu, Delhi, Uttar Pradesh, Himalchal Pradesh, Jammu, and Kashmir in northern India.

Because of the considerable misinterpretation of this species in the past, it is perhaps worthwhile to reproduce here the original description and certain other relevant descriptions. Vahl (1794) first described this taxon as follows: "Callicarpa foliis lanceolato-ellipticis crenatis attenuatis, supra rugosis subtus ramisque tomentosoincanis. Tab. LIII. Habitat in India orientali König. ¶ Rami obscure tetragoni, uti petioli & pedunculi, tomento denso sublanato tecti, ut in Call. lanata. Folia petiolata, opposita, spithamaea & ultra. saepe uncias tres lata, crenata, inferne versus integerrima, apice attenuata, basi obtusa, supra nervosa: nervis canescentibus, venoso rugosa, villis rarissimis minutis adpersa, subtus tomentosa, incana, tomento tenuiore quam in ramis, nervis elevatis venisque simplicibus obliquis inter nervos: huiora utrinque cana. Petiolus pollicaris. Paniculae axillares, dichotome-ramisissimae, oppositae, bipollicares: ramis divaricatis. Pedunculus universalis longitudine petiolorum. Bracteae ad ramificationes oppositae, lineares. Calyx minutus, quadridentatus, incanus. Corollae lacinae oblongo-subcuneatae, glabrae. Stamina & pistilla flore longiora. Sub nomine Callicarpae tomentosae misit Königius, differt vero, ut ex descriptione patet, foliis lanceolato-ellipticis crenatis, nec ovatis integerrimis denticulatisque."

Roxburgh (1820) modified Vahl's description as follows: "C. macrophylla. Vahl. Symbol. iii. 13. t. 53. Shrubby, downy. Leaves opposite, ovate-lanceolate, serrulate, reticulate, hoary underneath. Corymbs axillary, dichotomous, rather longer than the petiols. Berry minute, white. Native of Silhet and Chittagong. A shrub from four to eight feet in length. Trunk scarcely any, but several, round, erect branches, covered with white down. Leaves opposite, petioled, lanceolate, or oblong lanceolate, fine-pointed, finely serrate, wrinkled, above soft and a little downy, below covered with much whitish soft down, from six to nine inches long, and two or three broad. Stipules none. Petiols about an inch long, downy. Corymbs axillary, peduncled, two-forked nearly globular, downy, many times shorter than the leaves. -- Peduncles as long as the petiols, round and downy. -- Bractes lanceolate, one under each division of the corymb. -- Flowers very numerous, small, rose-coloured. -- Calyx woolly the four divisions distinct

and acute." The fruit, of course, is a drupe, not a berry, and the inflorescence is a cyme, not a corymb.

Roxburgh's C. incana is described (1820) as follows by him: "C. incana R. Shrubby, young shoots hoary. Leaves lanceolate, obtusely serrulate, fine and entire-pointed, hoary underneath. Mashandari Asiat. Res. lv. 233. Beng. Muttura, Muttrunja. A stout shrub, with all the tender parts and the under surface of the leaves densely clothed with long, soft, white, stellate pubescence; common in the vicinity of Calcutta, where it is in flower and seed nearly the whole year. I long considered this to be Vahl's macrophylla, but on rearing what I also took for the same species from Silhet and Chittagong, in the Botanic Garden, I could plainly observe a striking difference when growing near each other, and as the Chittagong and Silhet sort agrees much better with Vahl's figure and description I must consider it to be his macrophylla. In the Calcutta plant, which I now call incana, the leaves are never so broad in proportion to their length, more round at the base; much more pointed, with the long taper-points entire; all the rest of the margin, except what may be called the base, obtusely-serrulate. In macrophylla, the leaves are crenate, more obtuse, and the margins cut to the very apex; the two are however very nearly allied, though I think sufficiently distinct to authorize their being considered as different." Kuntze (1891) reduced this to varietal rank under C. macrophylla, although he accredited the variety to Roxburgh, and describes it as "Folia angustiora (1: 3--5). Bengalen, Sikkim." In this disposition he may be correct although as yet I have been unable to separate the two forms satisfactorily.

Léveillé's original description (1911) of C. dunniana is "Habitu et aspectu affinis C. macrophyllae Vahl a quo differt: serraturis foliorum tenuioribus; foliis supra viridibus nec rubescentibus, tomento candido nec cinereo aut flavido, antheris eglandulosis et inflorescentia axillari, foliosa nec divaricato-corymbosa et terminali. Kouy-Tchéou: Environs de Hoong-Ko-Chou, vallée de Pa-Lin-Kiao (Tchen-Lin). Arbuste à fleur d'un violet-pourpre, 20 juin 1898 (D. Séguin. 243a); Long-chan, juin 1906, fleurs rouges (Jas. Esquirol, 869)."

Bakhuizen van den Brink (1921) describes C. macrophylla as follows: "A shrub, 3--5 M. high; branchlets, cymes, petioles densely mealy or woolly; leaves rather large, coriaceous, oblong or sub-lanceolate, base obtuse or rounded, often subcordate, apex rather long acuminate, margins crenate vel obtusely serrate, except at the base and the top, upper side, when adult, densely hairy, the stellate hairs often stubbily broken, lower side softly white or greyish tomentose; pairs of nerves 10--15; 10--35 c.M. long, 3--18 c.M. broad; petioles 1--2 c.M.; cymes rather small, globose, 3--5 c.M. long, 3--10 c.M. in diam.; peduncles short, 1--2 c.M. long; calyx cupuliformous, densely floccose outside, 0.10--0.15 c.M. long; shortly 4-toothed, teeth subincurved, 0.01--0.015 c.M. long; corolla exsert 0.3--0.45 c.M., tube glabrous, 1 1/2 -- 2

times as long as the calyx, lobes 4, ovate, 0.1--0.12 c.M. long, 0.15--0.20 c.M. broad, glabrous or with some hairs outside; stamens 0.5--0.6 c.M.; anthers glandular, 0.07--0.10 c.M.; style 0.6--0.7 c.M., with subpeltate or obscurely 4-lobed stigma; ovary glabrous, glandular; drupe glabrous, white when mature, 4-seeded. Distribution: Brit.-India! Malabar! Himalaya! Nepal! Assam! Silhet! Bengal! Burma! Hainan! Hongkong! China! N.-Guinea (Warb.! Lauterb.!)! -- Mascarenes (Schau.! Réunion (Cordem)!"

Gamble (1881), under the name C. cana L., describes C. macrophylla as "A shrub. Bark thin, grey-brown. Wood white, soft. Annual rings marked by a line of closer pores. Pores moderate-sized, sometimes subdivided. Medullary rays moderately broad, the distance between them greater than the transverse diameter of the pores. Bengal. Common in forests and along roadsides in the Terai and Dûars, extending probably southwards to the Ganges. It has pretty pink flowers."

Backer & Bakhuizen van den Brink (1965) describe C. macrophylla from Java as follows: "Petiole 10--25 mm long; leaves oblong or lanceolate, from a cuneate, obtuse, rounded, or subcordate base, with an acuminate or tapering base, rather acute, crenate-serrate, at first on the upper surface densely covered with stellate hairs, afterwards with very numerous stubble-like rests of these, 10--35 cm by 2--18 cm. Cymes on 1--2 cm long peduncles, densely stellate-hairy, 3--10 cm across; pedicels gland-dotted; calyx minutely denticulate, with numerous yellow, glandular dots, basally coarsely stellate-hairy, 1 -- 1 1/2 mm long; corolla violet, outside thinly hairy or glabrous, with yellow glandular dots, 3 -- 4 1/2 mm high; stamens 5--6 mm; drupe white. Shrub. 3.00--5.00; I--XII; native to SE. Asia; in Java, 10--600, cultivated as an ornamental."

Champion & Hooker (1853) state that C. macrophylla is related to C. integerrima Champ., which is easily distinguished by its broad entire leaves and dense golden tomentum. Rosenthal (1862) says "Callicarpa Rheedii Kost. soll Rheedes Tondi-Teregam (IV.60) sein, wohin Dennstedt fragweise Callicarpa macrophylla Vahl.. zieht." Lam (1919) says of his C. pedunculata var. glabriuscula "This variety has an affinity with C. macrophylla, with which some authors confound the species, by the form of its leaves, especially in regard to the base."

A memorandum by C. E. C. Fischer and T. A. Sprague, preserved in the Britton Herbarium at the New York Botanical Garden, and dated August 18, 1931, states: "(1) The name Callicarpa Roxburghii was published by Wallich, Cat. nb. 1833 (1828--29) as a new name for C. incana Roxb., non C. cana L. It was effectively published since it is associable with the description of C. incana Roxb., but is an illegitimate name because it was superfluous. (2) Walpers, Rep. iv. 127 (1844--48) published a description of C. Roxburghii apparently based on Wall. Cat. n. 1833, specimen. A much better description of Callicarpa Roxburghii Wall. Cat. n. 1833, specimen, was published by Schauer in DC. Prodr. xi. 640 (1847).

This mentions the setaceous calyx-lobes [and is now known as C. kochiana Mak.]. (3) C. B. Clarke (F, B. I. iv. 568) and Lam (Bull. Jard. Bot. Buitenz. ser. 3, iii. 23) reduce C. incana Roxb. to C. macrophylla Vahl, apparently correctly. (4) Callicarpa Roxburghii Wall. (1828--29) is accordingly a taxonomic synonym of C. macrophylla Vahl. (5) The specimen of Callicarpa Roxburghii Wall. Cat. n. 1833 described by Walpers (?) and Schauer belongs, however, to a different species, namely the South Chinese Callicarpa included in Index Fl. Sin. ii. 255 (1890) as C. tomentosa Willd. It has the characteristic calyx-lobes of this South Chinese plant" [which is now known as C. kochiana Mak.]

Kuntze (1891) regarded C. roxburghii Wall. as distinct from C. macrophylla and listed "C. tomentosa W. non L." as a synonym of C. roxburghii. This confusion was due to the situation explained by Fischer and Sprague in the above-quoted memorandum. We regard C. tomentosa Willd. as a synonym of C. kochiana and C. tomentosa L. as a synonym of C. tomentosa (L.) Murr. Sprengel (1828) regarded C. incana Roxb. as a valid species, but in his 1825 work he placed it in the synonymy of what he called "C. lanata" [= C. tomentosa].

It should perhaps be pointed out here that the C. tomentosa accredited to Thunberg in the synonymy given above is a synonym of C. longifolia Lam., that accredited to Bakhuizen van den Brink is in part C. arborea Roxb. and in part C. integerrima Champ., that accredited to Lamarck and to "L. ex Spreng." is C. candicans (Burm. f.) Hochr., that ascribed to "L. ex Moldenke" is C. erioclona Schau., that ascribed to "Auct.", to Hooker & Arnott, to Willdenow, to "sensu auct. Japon.", to "sensu Matsum.", and to "sensu Matsum. & Hayata" is C. kochiana Mak., while that accredited to Murray, to "L. ex Willd.", and to "(L.) Santapau" is the true C. tomentosa (L.) Murr.

The C. cana ascribed to Dalzell & Gibson is a synonym of C. tomentosa (L.) Murr., that ascribed to Linnaeus, to Sprengel, and to Vahl is C. candicans (Burm. f.) Hochr., and that ascribed to Wallich is in part C. longifolia Lam. and in part C. pedunculata R. Br. The C. incana (Turcz.) Moldenke, also ascribed to "(F.) Moldenke" by certain authors, is actually C. cubensis Urb. The C. roxburghii ascribed to H. J. Lam, to Schauer, to "Wall. ex Schau.", to "Wall. ex Walp.", and to "sensu H. J. Lam" is C. kochiana Mak. The C. macrophylla var. sinensis C. B. Clarke is a synonym of C. nudiflora Hook. & Arn.

Watt (1889) tells us that C. macrophylla is "A tall shrub of Northern and Eastern India, found as far north as Hazára, and ascending the Himalaya to 6000 feet, and abundant in Bengal...In Hazára the heated leaves are applied to rheumatic joints (whence the name bá-pattra, from bá, rheumatism)." This Watt reference is cited by Prain (1963) as "E. D. c. 133" — 133 being a paragraph number! Groff also tells us that the species is "used in the pre-

paration of a medicine used for injuries" in Kwangsi, China. Datta (1965) states that the plant is found in village shrubberies in India; Prain (1903) asserts categorically that it is found "In all the provinces" of Bengal — presumably both Indian and Pakistani Bengal. Balakrishnan (1964) affirms that it grows naturally from Kashmir to Assam in northern India and to Pegu in Burma, ascending to 2000 meters altitude, its white fruit rendering it quite distinct from C. arborea Roxb., with its purplish-black fruit, and from C. tomentosa (L.) Murr. Maheshwari (1963) distinguishes it from C. longifolia Lam. by pointing out that in C. longifolia the leaves are "thinly stellate-pubescent; corolla more or less pubescent outside", while in C. macrophylla the leaves are "densely stellate-woolly beneath; corolla glabrous outside or with some hairs."

Bojer (1837) records C. macrophylla as cultivated in Mauritius and Humbert insists that the Madagascar record for the species is also based on cultivated material. It is therefore probable that the Réunion record given below is also from cultivated material, although the label of the specimen does not indicate this to be the case. I assume that the Brazilian record is also taken from cultivated material, even though, again, the label does not indicate such a fact.

Dahlgren (1938), for some reason unknown to me, places this genus and species in the Lamiaceae!

Common and vernacular names recorded for C. macrophylla include "bannu", "bá-pattra", "b'a-pattra", "bauna", "budhi ghasit", "budhi-ghasit", "daia", "daidogoro", "daya", "dea", "den", "denthur", "druss", "drúss", "grossblättrige Schönbeere", "mashandari", "mathara", "mattranja", "muttranja", "muttrunja", "muttura", "oon awn", "pattharman", "poko kwat tán", "shiwali", "sigye", "sumali", "súmáli", "thar", "tondi-teregam", "urnfruit beautyberry", and "urn-fruit tree". It should be noted that the name "shiwali" is also applied to C. arborea Roxb.

Alleged references to this species in Baden Powell, "Pb. Pr. 571", "Asiat. Res. 55: 233", and "Kanjilal For. Fl. 263" have not yet been verified by me.

Panigrahi and his associates (1964) record the species as common in Orissa; Rao (1964) records it from Uttar Pradesh; Stewart (1967) records it from Swat. Deb (1961) cites Deb 154 from Manipur. Santapau, in a letter to me dated February 16, 1948, says that this species "occurs in the Deccan, fide Clarke. The plant seems to be common in N. and E. India, only occasionally elsewhere; I have seen no specimens from Bombay Presidency". Kitamura (1959) cites his collections from Halchok, altitude 1500 meters, July 31, 1953, and from Arughat Bazar, altitude 624 meters, December 10, 1952, in Nepal, and gives the overall distribution of the species as "Himalaya, India, Burma, China: Yunnan, Szechuan, Kwangtung, Hainan; Siam, Indo-China, New-Guinea, Mascarenes, Reunion". Kapoor and his associates (1969) report the isolation of an alkaloid from C. macrophylla. Gillis 8574 was

grown from seed secured in northern India via "Fla. Fed. Gard. Clubs 328".

Chang (1951) cites G. Forrest 9190 and nos. 4736, 5717, 6374, 9511, 9576, 53291, 60639, 90752, 90986, 96332, & 155948 of collectors and/or herbaria whose names, unfortunately, he gives only in Chinese characters.

Material of Callicarpa macrophylla has been misidentified and distributed in herbaria under the names C. arborea Roxb., C. cana L., C. dentata Roxb., C. longifolia Vahl, C. nudiflora Hook. & Arn., C. reevesii Wall., and C. vestita Wall.

On the other hand, the Herb. Mus. Paris. s.n. [Coromandel], distributed as C. macrophylla, is actually C. arborea Roxb., Koorders 19498b [448] is C. caudata Maxim., C. Wright s.n. [Hong Kong] is C. integerrima var. serrulata Li, R. C. Ching 2009 is C. kochiana Mak., Ford s.n. [Hongkong] is the type collection of C. lobopapiculata Metc., Herb. Univ. Delhi 270 is C. longifolia Lam., Nevin s.n. [Canton] is C. nudiflora Hook. & Arn., F. A. McClure 3038 [Herb. Canton Chr. Coll. 9591] is a cotype collection of C. rubella f. robusta P'ei, Fraser 122 and Simons 5699 are C. tomentosa (L.) Murr., and Koelz 13302 is Geunsia cumingiana (Schau.) Rolfe.

In all, 147 herbarium specimens and 8 mounted illustrations, including 2 photocopies, have been examined by me.

Additional citations: PAKISTAN: East Bengal: W. Griffith 6000 (T), 6040 (S). NEPAL: Bis Ram 570 (N); Pradham & Ihapa 4497 (W--2581488); Wallich s.n. [e Nepalia] (S). BHUTAN: R. Lister 28 (Bz--18084). SIKKIM: Kuntze 7208 (N). INDIA: Assam: Jenkins s.n. [Assam] (Bz--18080, Bz--18081); Koelz 26987 (Mi); Masters 696 (Bz--18077), s.n. [Assam] (Bz--18076, Bz--18085); Simons s.n. [Assam] (Bz--18078); Wallich 1832g (S). East Punjab: J. R. Drummond 26703 (Ca--244964), 26706 (Ca--244965). Kashmir: Meebold 161 (S); R. R. Stewart 2725 (N), 3725 (S). Khasi States: W. Griffith s.n. [Khasia hills] (Bz--18082). Madras: Yeshoda 488 (N). Uttar Pradesh: Afzal s.n. [9th Nov. 1929] (N), s.n. [16th Aug. 1930] (N); Ali 23 [Bot. Coll. 102] (N); Duthie 22445 (Ca--269792, Gg--127010); Gairola 80 (W--1347717); Goel s.n. [22nd Sept. 1929] (W--1716613); Kalaky s.n. [28th December 1930] (W--1719637), s.n. [8th August 1931] (W--1719637); Kharyal s.n. [Gola Tappar, January 1929] (S), s.n. [Lachiwala, August 1929] (S); Poovaliah s.n. [4-8-30] (N), s.n. [15-8-31] (N); Raizada 126 (N); U. Singh 375 (Dp--30709, La, N, S); R. R. Stewart 11148 (N); Vaid s.n. [20.6.49] (N). West Bengal: Biswas s.n. [Goke, 23/XII/1937] (N); Herb. Hort. Bot. Calcutt. s.n. [Goke, 23/XII/1937] (W--1759055), s.n. [Goke] (Bz--18075); King's Collector 126 (Na--16190); Kuntze 6491 (N, N); Kurz s.n. [19/9/68] (Bz--18086), s.n. [Chandernagore, 7/71] (W--803879); T. Thomson s.n. [Plan. Ganget. Sup.] (Ca--192884, S). State undetermined: H.

Falconer 748 (S); Kuntze 3600 [Turong Anambai] (N); Nath 76 [Bundanala] (Ca--304517). BURMA: Upper Burma: Huk 58 (Bz--18088), s. n. [July 1891] (W--369328); Juan 646 (W--2213155); J. F. C. Rock 828 (W--1171492). Province undetermined: McLelland s.n. [Burmah] (Bz--18087). CHINA: Kwangsi: Ching 5717 (N), 6374 (N); G. W. Groff 10 [Herb. Canton Chr. Coll. 4050] (Ph); Stewart & Cheo 876 (Bz--17485, S). Kweichow: Esquirol 869 (N--photo); Séguin 243a (N--photo); Tsiang 6371 (N, S, W--1575040). Yunnan: A. Henry 9262 (N), 9262a (N), 9262b (W--456891). THAILAND: Hansen & Smitinand 11974 (Cp); Larsen, Santisuk, & Warncke 2774 (Ac); Winit Wanandorn 1152 (Bk). NEW GUINEA: Papua: C. E. Carr 11317 (N). CULTIVATED: Belgium: M. Martens s.n. [h. b. lov. 1841] (Br). Brazil: Campos Novaes 11278 [Herb. Com. Geog. & Geol. S. Paulo 5842] (Mi--photo, Sp--11278). California: La Rue s.n. [Citrus Exp. Sta., Riverside] (Ar--19789). Cuba: Ferras 20465 (Es). Florida: Gillis 8574 [Fairchild Trop. Gard. FG-58-719] (Z). France: Herb. Hort. Paris. s.n. [1820] (V); Herb. Schwägrichen s.n. (Mu--1435). Germany: Herb. Kummer s.n. [hort. Monac. 1846] (Mu--1437, Mu--1438, N--photo, Z--photo), s. n. [hort. Monac. 1865] (Mu--1436), s. n. [hort. Monac.] (Mu--1444, Mu--1445). Hawaiian Islands: Degener & Degener 28448 (N); A. F. Judd 158 (Bi); Judd, Bryan, & Neal s.n. [June 6, 1932] (Bi); Meebold s.n. [January 1940] (Bi). India: Herb. Hort. Bot. Calcutt. s.n. (Bz--18079, Bz--18083, E--photo, Ed, M, Mu--964, Mu--1000, Mu--1159, N--photo, X, Z--photo); Herb. Hort. Seramp. s.n. (Cp); Herb. Roxburgh s.n. (K); Jamison s.n. [Serampore] (Ed); Roxburgh 159 (Br), s. n. (K); Strachey & Winterbottom 1 (K), s. n. (Os); Voigt s.n. [H. B. Seramp.] (Cp, Cp, Cp); Wallich 1832/g (Mu--1434), 1832/L (K). Java: Bakhuizen van den Brink 765 (Bz--18074, N); Herb. Hort. Bot. Bogor. XI.G.91 (Bz), XI.G.91a (Bz--25795, Bz--26525, Bz, N), XI.G.92 (N), XI.G.92 & a (Bz--18073), XV.F.31 (Bz--26340, Bz, N), XV.F.31a (Bz--26347), XV.J.A.XXX.3 (Bz--26365, Bz--26366), XV.J.A.XXX.3a (Bz--26367, Bz), XV.J.A.XXX.4 (Bz--26368, N), s. n. (Bz--26348). Madagascar: Herb. Direct. Agric. 90 (P). Maryland: F. G. Meyer 4111 [U. S. Dept. Agr. Pl. Introd. 240796] (Bv). Mauritius: Bojer II. 88 (V). Réunion: L'Isle 243 (P, W--210572). LOCALITY OF COLLECTION UNDETERMINED: Blackburn s.n. (T); Herb. Mus. Bot. Stockholm 87 (S), s. n. (S).

CALLICARPA MACROPHYLLA var. *GRIFFITHII* C. B. Clarke in Hook. f., Fl. Brit. Ind. 4: 568. 1885.

Bibliography: C. B. Clarke in Hook. f., Fl. Brit. Ind. 4: 568. 1885; Moldenke, Alph. List Invalid Names Suppl. 1: 3. 1947; Moldenke, Résumé 245. 1959; Moldenke, Résumé Suppl. 16: 9 & 18. 1968.

This variety differs from the typical form of the species in

being much branched and having leaves which are much smaller, fuscous-woolly, obscurely stellate beneath, and ultimately glabrate, according to Clarke (1885).

The type of the variety was collected by William Griffith (no. 6041) in Bhutan, where it appears to be endemic. Clarke says that it "Differs a good deal in habit from C. macrophylla, but connected by E. Nepal specimens collected by Sir J. D. H. [ooker]". The taxon is known to me only from the literature.

CALLICARPA MADAGASCARIENSIS Moldenke, Bull. Torrey Bot. Club 77: 391--392. 1950.

Bibliography: Moldenke, Bull. Torrey Bot. Club 77: 391--392. 1950; Moldenke, Revist. Sudam. Bot. 8: 169. 1950; E. J. Salisb., Ind. Kew. Suppl. 11: 40. 1953; Moldenke in Humbert, Fl. Madag. 174: 45--47, fig. VI 1 & 2. 1956; Moldenke, Résumé 155 & 444. 1959.

Illustrations: Moldenke in Humbert, Fl. Madag. 174: fig. VI 1 & 2. 1956.

Shrub, about 2 m. tall; branchlets and twigs very slender, grayish, very obtusely tetragonal or subterete, very densely short-pubescent with flavidous hairs when young, glabrescent in age; nodes not annulate; principal internodes often much abbreviated on twigs, 1--8 mm. long, or elongate to 3 cm. on branchlets; leaf-scars comparatively large and elevated, with prominent corky margins; leaves decussate-opposite, crowded at the tips of the twigs; petioles slender, 3--9 mm. long, very densely flavidous-pubescent; leaf-blades thin-chartaceous, dark-green above, lighter beneath, lanceolate or narrowly elliptic, 1.5--5.5 cm. long and 1--1.6 cm. wide during anthesis, acute or shortly acuminate at the apex, obtuse or rounded at the base, entire, densely short-pubescent or subvelutinous above, densely tomentellous with canescent-flavidulous hairs beneath; midrib slender, flat above, prominulous beneath; secondaries slender, about 5 per side, arcuate-ascending, flat or obscure above, very slightly prominulous beneath; vein and veinlet reticulation indiscernible above, mostly obscure beneath; inflorescence axillary and terminal, small, cymose, 1--1.5 cm. long and wide, the axillary cymes usually concentrated in the upper axils and appearing as though constituting part of a terminal one, few-flowered, densely short-pubescent with flavidous hairs throughout; peduncles very slender, 2--4 mm. long, flavidous-pubescent; pedicels filiform, 1 mm. long or less, flavidous-pubescent; bractlets linear, 1--2 mm. long, densely flavidous-pubescent; calyx campanulate, about 2.5 mm. long and wide, appressed-pubescent and more or less resinous-granular on the outside, 4-ribbed, its rim shortly 4-dentate; corolla hypocrateriform, its tube about 4 mm. long, lightly puberulent and resinous-granular on the outside above the calyx, its lobes 3--4 mm. long, resinous-granular on the back, lightly pilosulous on the margin and in a median band on the inside; stamens and pistil exserted; fruiting-calyx and fruit not known.

The type of this endemic species was collected by André Seyrig

(no. 782) at an altitude of 750 meters, north of Ampandrandava, between Bakily and Tsivory, Madagascar, in December, 1943, and is deposited in the herbarium of the Muséum National d'Histoire Naturelle at Paris. The species is known only from the original collection. In all, 3 herbarium specimens, including the type, and 3 mounted photographs have been examined by me.

Citations: MADAGASCAR: Seyrig 782 (F--photo of type, N--isotype, N--photo of type, P--type, P--isotype, Z--photo of type).

GALLICARPA MAGNIFOLIA Merr., Philip. Journ. Sci. Bot. 20: 437. 1922.

Bibliography: E. D. Merr., Philip. Journ. Sci. Bot. 20: 437. 1922; E. D. Merr., Enum. Philip. Fl. 3: 386. 1923; Quisumb. & Merr., Philip. Journ. Sci. Bot. 37: 196. 1928; A. W. Hill, Ind. Kew. Suppl. 7: 37. 1929; Moldenke, Alph. List Common Vern. Names [1]. 1939; Moldenke, Known Geogr. Distrib. Verbenac., ed. 1, 62 & 87. 1942; Moldenke, Phytologia 2: 95. 1945; Moldenke, Known Geogr. Distrib. Verbenac., ed. 2, 141 & 177. 1949; Moldenke, Résumé 182 & 444. 1959.

Shrub or small tree; branches terete or somewhat compressed at the nodes, pale-grayish, glabrous, about 6 mm. in diameter; branchlets reddish-brown, densely fulvous-tomentose with rather soft plumose and stellate hairs; leaves decussate-opposite; petioles about 5 cm. long, densely tomentose; leaf-blades subcoriaceous, broadly elliptic-ovate, 22--27 cm. long, 17--20 cm. wide, shortly and broadly acuminate at the apex, entire along the margins or very obscurely and remotely denticulate near the apex, broadly rounded or sometimes subacute at the base, olivaceous, glabrous and shiny above, paler and densely fulvous-tomentose with rather soft plumose and stellate hairs beneath, not at all glandulose; secondaries about 10 per side, very prominent; tertiaries subparallel, distinct; cymes in the axils of the fallen leaves, about 6 cm. long and to 9 cm. wide in fruit; bractlets linear, 3--5 mm. long, pubescent; flowers not known; fruiting-calyx membranous, cupuliform, about 3 mm. long, the rim shortly 4-lobed; fruit globose, about 3 mm. in diameter, glabrous, nearly surrounded by the densely fulvous-tomentose greatly enlarged disk which is subglobose and to 10 mm. in diameter.

The type of this remarkable species was collected by Maximo Ramos and Gregorio E. Edaño [Herb. Philip. Bur. Sci. 37563] in forests at an altitude of about 1200 meters on Mount Masingit, in Kalinga Subprovince, Luzon, Philippine Islands, on February 17, 1920, and was deposited in the herbarium of the Bureau of Science at Manila, but is now destroyed. The native vernacular name of "agnai" is recorded for the plant.

Merrill (1922) says that "This species is remarkable for its greatly enlarged, densely fulvous-tomentose disk which surrounds and nearly incloses the fruit, a character that is unknown to me for any other described species of the genus. It is further remarkable for its unusually large leaves which are eglandular and densely tomentose on the lower surface." Quisumbing & Merrill

(1928) comment that the species is apparently related to and very similar to C. pachyclada Quisumb. & Merr.

Callicarpa magnifolia is known to me only from the literature referred to above.

CALLICARPA MAINGAYI King & Gamble, Kew Bull. Misc. Inf. 1908: 106. 1908.

Synonymy: Callicarpa maingaya King & Gamble apud Elm., Leafl. Philip. Bot. 3: 866, sphalm. 1910. Callicarpa maingayi King & Gamble apud Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 21, in syn. 1921.

Bibliography: S. Kurz, Forest Fl. Brit. Burma 2: 274 & 589. 1877; King & Gamble, Kew Bull. Misc. Inf. 1908: 106. 1908; King & Gamble, Journ. Roy. Asiat. Soc. Bengal 74 (2), extra no.: 802 & 804. 1908; King & Gamble, Mat. Fl. Malay Penins. 21: 1012 & 1014. 1909; Elm., Leafl. Philip. Bot. 3: 866. 1910; Prain, Ind. Kew. Suppl. 4, pr. 1, 34. 1913; E. D. Merr., Philip. Journ. Sci. Bot. 12: 298. 1917; H. J. Lam, Verbenac. Malay. Arch. 47, 49, 63, & 362. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 21. 1921; H. N. Ridl., Fl. Malay Penins. 2: 614 & 615. 1923; Calder, Narayanaswami, & Ramaswami, Rec. Bot. Surv. India 11: 24. 1926; Fletcher, Kew Bull. Misc. Inf. 1938: 411 & 413. 1938; Moldenke, Suppl. List Common Vern. Names 2, 6, 14, 21, & 23. 1940; Moldenke, Known Geogr. Distrib. Verbenac., ed. 1, 59--61 & 87. 1942; Moldenke, Phytologia 2: 95. 1945; H. N. & A. L. Moldenke, Pl. Life 2: 71. 1948; Moldenke, Known Geogr. Distrib. Verbenac., ed. 2, 137--139 & 177. 1949; Moldenke, Phytologia 4: 76 (1952) and 6: 215. 1958; Prain, Ind. Kew. Suppl. 4, pr. 2, 34. 1958; Anon., Kew Bull. Gen. Index 1929--1956, p. 59. 1959; Moldenke, Résumé 177, 179, & 444. 1959; Moldenke, Phytologia 14: 37. 1966; Moldenke, Résumé Suppl. 14: 7. 1966.

Shrub, small or medium-sized tree, or climber; branches minutely golden-brown stellate-tomentose when young or covered with a yellowish scaly scurf; branchlets stout, obtusely tetragonal; leaves decussate-opposite, often inequilateral; petioles stout, 4-5 cm. long, canaliculate above; leaf-blades coriaceous or thin-coriaceous, elliptic to elliptic-obovate or obovate, 15--30 cm. long, 7.5--15 cm. wide, rounded and very shortly acute or acuminate at the apex, entire or subentire to undulate along the margins with minute denticulations at the ends of the larger veins, narrowed or rounded and then somewhat cuneate at the base, glossy-green and glabrous on the upper surface except for the midrib and secondaries on young leaves, ashy-gray beneath and minutely golden-brown stellate-tomentose or rugose and very minutely appressed stellate-pubescent, the venation on all impressed above and strongly elevated beneath; midrib stout; secondaries 10--12 pairs, issuing at an angle of about 75° from the midrib, antrorsely curvate, anastomosing near the margins; tertiaries fairly regular, transversely joining the secondaries; veinlet reticulation connecting the tertiaries; inflorescence minutely golden-brown stellate-tomentose; cymes 8--9 cm. long and to 15 cm. wide or only

5--8 cm. long and wide, compound, widely dichotomous, many-flowered; peduncles stout, short, flattened, 2.5--4 cm. long; cyme-branches also flattened when dry; bractlets linear-subulate, very small; pedicels slender, 1--2.5 mm. long; calyx hemispheric, 1--1.5 mm. long, tawny stellate-tomentose outside, glabrous within, the rim denticulate with 4 minute teeth; corolla white to yellowish or greenish-yellow, scurfy, its tube subcylindric, 1--1.5 mm. long, very densely stellate-tomentose outside, glabrescent within, the lobes short, about 1 mm. long, rounded at the apex, villous within; stamens inserted near the base of the corolla-tube; filaments 4.5 mm. long; anthers glandular-punctate on the back; style slender; stigma capitate; ovary villous; drupes small, globose, black, to 1.5 mm. in diameter.

This species was based by King and Gamble on H. N. Ridley 2787 from Selangor and on Derry 1005 and Maingay 1192 -- in whose honor it was named -- from Malacca, as cotypes. These authors say in their original description (1908) "In Kew Herbarium, Maingay's specimen has been placed under C. arborea, but the species differs in many respects. The venation of the leaves is very different, as is the tomentum of much smaller stellate hairs; the leaves are nearly blunt; the tube of the corolla much longer, and its lobes much shorter; and we have no hesitation in describing it as a new species." In their key they distinguish the two species about as follows:

1. Leaf-blades long-acuminate at the apex, the tomentum thick; cymes dense; corolla-tube only about .075 inch long, merely puberulous.....C. arborea Roxb.
- 1a. Leaf-blades obtuse or very shortly acuminate at the apex, the tomentum thin; cymes spreading; corolla-tube .1 inch long, stellate-pubescent.....C. maingayi King & Gamble.

Lam (1919) distinguishes the present taxon from C. subalbida Elm. as follows:

1. Corolla densely stellate-hairy outside, the lobes pubescent within.....C. maingayi.
- 1a. Corolla glabrous outside, the lobes glabrous within.....C. subalbida.

Ridley (1923) differentiates it from two closely related Malay-species as follows:

1. Leaf-blades densely tomentose beneath; corolla violet.....C. arborea.
- 1a. Leaf-blades thinly tomentose beneath; corolla greenish.....C. maingayi.
- 1b. Leaf-blades white beneath with brown-scurfy veins.....C. furfuracea Ridl.

He cites a Derry s.n. from Hulu Chembong and a Cantley s.n. from Selangor, and says "Selangor, Sempang Track, Semangkok Pass; Ulu Gombak Road; Langat. Native names: Poko chulak; tuto putih. Use: wood for making fiddles." Other common names recorded for the plant are "balek angin laut", "chulak", "hu khawi khao", "mendapor", "tampang besi", "tulo", "tutok puteh", and "tutor".

The species has been found scattered in evergreen jungles at 100 meters altitude, flowering in April, May, and November. The corollas are described as "white" on Bunkird 85 and Singapore Field No. 16051 and as "yellowish" on Snan 210; Ridley calls them "greenish".

It is worth noting that Bakhuizen van den Brink (1921) regarded C. maingayi as a synonym of C. tomentosa (L.) Murr., while Fletcher (1938) regarded C. tomentosa var. typica Bakh. as a synonym of C. maingayi.

In all, 7 herbarium specimens of C. maingayi and 2 mounted photographs have been examined by me.

Citations: THAILAND: Bunkird 85 [Herb. Roy. Forest. Dept. 3284] (Sm); Snan 210 [Herb. Roy. Forest. Dept. 12090] (Z); Winit Wanandorn 6021 (N). MALAYA: Pahang: Holtum 24803 (Bz--18097, Bz--18098, N, N--photo, Z--photo); Singapore Field No. 16051 (Ca--255309).

CALLICARPA MEGALANTHA Merr., Philip. Journ. Sci. Bot. 10: 71--72. 1915.

Bibliography: E. D. Merr., Philip. Journ. Sci. Bot. 10: 71--72. 1915; H. J. Lam, Verbenac. Malay. Arch. 48, 50, 75, & 362. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 13. 1921; Prain, Ind. Kew. Suppl. 5, pr. 1, 43. 1921; E. D. Merr., Enum. Philip. Pl. 3: 386. 1923; Moldenke, Alph. List Common Vern. Names 23. 1939; Moldenke, Known Geogr. Distrib. Verbenac., ed. 1, 62 & 87. 1942; Moldenke, Phytologia 2: 95. 1945; Moldenke, Known Geogr. Distrib. Verbenac., ed. 2, 141 & 177. 1949; Moldenke, Résumé 182 & 444. 1959; Prain, Ind. Kew. Suppl. 5, pr. 2, 43. 1960.

Tree, about 10 m. tall, most of its parts (except the upper surface of the adult leaves) more or less yellow-glandular and stellate-plumose-pubescent, the indumentum dark-brown or dark grayish-brown in color; branches terete, the younger ones more or less compressed, yellow-glandulose, the younger parts densely stellate-plumose-pubescent; branchlets brown or gray, stellate-hairy, densely glandulose; leaves decussate-opposite; petioles 2--2.5 cm. long, very densely stellate-pubescent with brown or gray hair, densely glandulose; leaf-blades subcoriaceous, oblong to oblong-ovate, 12--16 cm. long, 5--6 cm. wide, about equally narrowed to the acuminate apex and the acute base, entire along the margins, more or less stellate-pubescent above when young, becoming glabrous or nearly glabrous in age, brownish-olivaceous and slightly shiny above, paler and with numerous scattered pale-yellow shiny glands beneath and also stellate-pubescent, more densely so on the midrib and secondaries and with only scattered stellate hairs on the lamina; secondaries about 9 per side, upwardly curvate, anastomosing, prominent beneath; inflorescence cymose, in the upper leaf-axils, solitary, 7--8 cm. in diameter, densely many-flowered, dichotomously branched; peduncles stout, about 8 cm. long, these along with the bracts, bractlets, and

calyxes densely stellate-plumose-pubescent, the indumentum almost obscuring the scattered shiny pale-yellow glands; bracts oblanceolate-spatulate, 6--8 mm. long; bractlets similar but much smaller; calyx somewhat infundibular, about 3 mm. long, its rim equally 4-toothed or -lobed, the lobes short and acute; corolla white, 6--7 mm. long, sparingly glandulose outside with small yellow shiny glands, the lobes 4, subequal, oblong-ovate, 3--3.5 mm. long, broadly rounded at the apex, sparingly stellate-pubescent in lines and glandulose externally on the median portion; filaments 7--8 mm. long; anthers ovoid, about 1.2 mm. long, somewhat glandulose on the back; ovary ovoid, very densely covered with small shiny pale-yellow glands.

The type of this species was collected by Richard Crittenden McGregor [Philip. Bur. Sci. 19687] on Mount Polis, in Ifugao Subprovince, Luzon, Philippine Islands, and was deposited in the herbarium of the Bureau of Science at Manila, but is now destroyed. Merrill (1915) comments that the species is "Probably most closely allied to Callicarpa subglandulosa Elm., but differing from that species in many characters. Callicarpa megalantha is remarkable for its comparatively large flowers which are indicated by the collector as being white, a color otherwise unknown or at least very rare in the genus, its long-peduncled cymes, and its dark-brown or dark grayish-brown indumentum."

The species appears to be endemic to Luzon. Lam (1919) also avers that "Its affinity is with C. subglandulosa [now known as Geunsia pentandra (Roxb.) Merr.]; it has, however, leaves with an attenuate base, whilst C. subglandulosa has leaves with a somewhat rounded base." A common name recorded for it is "palayan". It has been found blooming in February and September, and fruiting in September.

Bakhuizen van den Brink (1921) reduces the species to synonymy under what he calls C. pentandra var. typica f. hexandra Bakh. [= Geunsia hexandra (Teijsm. & Binn.) Koord.]. Material has been misidentified and distributed in herbaria under that name. In all, 5 herbarium specimens have been examined by me.

Citations: PHILIPPINE ISLANDS: Luzon: Quisumbing s.n. [Herb. Philip. Bur. Sci. 84641] (N); Ramos & Edayo s.n. [Herb. Philip. Bur. Sci. 37718] (Bz--18555, W--1260405), s.n. [Herb. Philip. Bur. Sci. 40363] (Bz--18554, W--1261454).

CALLICARPA MEMBRANACEA Chang, Act. Phytotax. Sin. 1: 306. 1951.

Bibliography: H.-T. Chang, Act. Phytotax. Sin. 1: 300, 306, & 312. 1951; G. Taylor, Ind. Kew. Suppl. 13: 21. 1966; Moldenke, Résumé Suppl. 14: 3. 1966.

Chang (1951) describes this species as follows: "Frutex circ. 1 m altus. Ramuli pallidi lenticellati glabrescentes. Folia membranacea anguste oblonga, 10--15 cm longa, 3--4.5 cm lata, utrinque glabra, supra viridia subtus pallidiora sparse punctata, apice longe acuminata vel subcaudata, basi cuneata vel acuta, margine in parte 3/4 superiore serrata, serraturis in utroque

latere 16--24 inter se 3--7 mm distantibus; nervi laterales utrinsecus 8--11 subtus elevati; petioli circ. 5 mm longi glabri. Cymae axillares bis dishotomae, 1.5 cm diametro, circ. 14-florae, glabrae vel sparsissime stellato-puberulae; pedunculi 5--8 mm longi graciles; bracteae et bracteolae subulatae glabrae; calyx 1--1.5 mm longus truncatus glaber vel sparsissime stellato-puberulus, lobis inconspicuis; corolla glabra, tubo 3 mm longo, lobis 1 mm longis; stamina exserta, filamentis 3--4 mm longis, antheris 1.3 mm longis, poro apicali dehiscentibus; ovarium punctatum, stylo staminibus longiore, stigmatate paulo bifido. Fructus roseus 3 mm diametro."

The species is based on R. C. Ching 6130, collected in 1928 in Kwangsi, China, and deposited in the herbarium of the Botanical Institute of Sunyatsen University, Canton, China. Chang cites also S. H. Chun 2800 from Hunan and compares the species (in Chinese) with C. brevipes (Benth.) Hance.

CALLICARPA MERRILLII Moldenke, Bull. Torrey Bot. Club 60: 55. 1932.

Synonymy: Callicarpa lancifolia Merr., Philip. Journ. Sci. Bot. 10: 70--71. 1915 [not C. lancifolia Millsp., 1906, nor Pav., 1936, nor Sessé & Moc., 1940]. Callicarpa caudata var. simplicipuberula H. J. Lam, Verbenac. Malay. Arch. 61. 1919.

Bibliography: E. D. Merr., Philip. Journ. Sci. Bot. 10: 70--71. 1915; H. J. Lam, Verbenac. Malay. Arch. 46, 54--55, 61, & 362. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 23. 1921; Prain, Ind. Kew. Suppl. 5, pr. 1, 43. 1921; E. D. Merr., Enum. Philip. Pl. 3: 385. 1923; Moldenke, Bull. Torrey Bot. Club 60: 55. 1932; A. W. Hill, Ind. Kew. Suppl. 9: 46. 1938; Moldenke, Alph. List Common Vern. Names 17, 23, & 30. 1939; Moldenke, Prelim. Alph. List Invalid Names 11. 1940; Moldenke, Carnegie Inst. Wash. Publ. 522: 199. 1940; Moldenke, Known Geogr. Distrib. Verbenac., ed. 1, 62 & 87. 1942; Moldenke, Alph. List Invalid Names 9. 1942; Moldenke, Phytologia 2: 95. 1945; H. N. & A. L. Moldenke, Pl. Life 2: 72. 1948; Moldenke, Alph. List Cit. 2: 462 (1948) and 3: 723 & 841. 1949; Moldenke, Known Geogr. Distrib. Verbenac., ed. 2, 141 & 177. 1949; Moldenke, Résumé 182, 244, & 444. 1959; Prain, Ind. Kew. Suppl. 4, pr. 2, 43. 1960; Moldenke, Phytologia 13: 431 & 433 (1966) and 14: 142 & 143. 1966; Moldenke, Résumé Suppl. 14: 6 (1966) and 15: 11. 1967; Moldenke, Phytologia 15: 20 (1967) and 16: 451 & 452. 1968; Moldenke, Résumé Suppl. 16: 12. 1968; Moldenke, Phytologia 21: 33 & 109. 1971.

Shrub, 1--4 m. tall; branches terete, slender, subglabrous or more or less ferruginous-stellate-pubescent, the younger ones and branchlets densely stellate-pubescent and with scattered longer sparingly plumose-branched hairs intermixed; leaves decussate-opposite; petioles 5--8 mm. long, densely stellate-tomentose; leaf-blades chartaceous, lanceolate to narrowly oblong-lanceolate, 15--20 cm. long, 3--5 cm. wide, narrowed above to the long and slender often subfalcate caudate-acuminate apex, serrate-dentate with distinct gland-tipped teeth along the margins, narrowed below to the obtuse and usually slightly inequilateral base, usually olivaceous

above when dry and eglandular with scattered short simple hairs, usually somewhat paler and sparingly stellate-tomentose beneath and minutely glandular or usually only with simple hairs beneath; secondaries 10 or 11 per side, distinct, arcuate-ascending, anastomosing; inflorescence cymose, the cymes axillary, solitary, 2--4 cm. long, pedunculate, dichotomous, rather lax and open, many-flowered, the branches divaricate, rather densely pubescent with simple and stellate hairs intermixed, sometimes with plumose hairs; bractlets small, linear, pubescent; calyx about 1 mm. long, sparingly hirsute-pubescent with short straight simple hairs, the rim obscurely or scarcely and subequally 4-toothed; corolla pink or lilac, glabrous, the tube about 2 mm. long, glabrous, the lobes 4, orbicular-ovate, about 1 mm. long, rounded at the apex; stamens little exerted; filaments 4 mm. long; anthers 0.5 mm. long; style slender, 5.5 mm. long, slightly thickened into the stigma at the apex; fruit white or dark-pink.

The type of this species was collected by Maximo Ramos (Herb. Philip. Bur. Sci. 11078) on the island of Cebu, Philippine Islands, in March, 1912, and was deposited in the herbarium of the Philippine Bureau of Science at Manila, but is now destroyed. The corolla is described as "pink" on R. S. Williams 2306 and as "yellow" [probably an error] on Herb. Philip. Bur. Sci. 44601. E. D. Merrill 8115 has extra large leaf-blades.

Merrill (1915) notes that "The species has been confused with Callicarpa caudata Maxim., and C. longifolia Lam., and is manifestly allied to the former, differing in its very different indumentum. It is apparently more closely allied to C. stenophylla Merr., than to C. caudata, but is distinguished from the former by its broader leaves. Among the extra-Philippine forms it is apparently most closely allied to Callicarpa longifolia Lam., differing in its indumentum, shape of its leaves, and in details of its flowers." He cites as typical material of C. merrillii the following collections: Basilan: DeVore & Hoover 41, Hallier s.n. Mindanao: Mrs. Clemens s.n. [Camp Keithley], Fénix s.n. [Herb. Philip. Bur. Sci. 15802], E. D. Merrill 8115, C. B. Robinson s.n. [Herb. Philip. Bur. Sci. 11802], R. S. Williams 2307. Mindoro: E. D. Merrill 5556. Ticao: W. W. Clark s.n. [Herb. Philip. Forest Bur. 2534].

In my opinion, the species is most closely related to C. caudata Maxim. Lam (1919) agrees, saying "Its affinity is with C. caudata, from which it differs, however, by the obtuse base of the leaves, and in some other points." Actually, the simple hairs on the lower leaf-surface, seen very plainly on Elmer 10375 and on Herb. Philip. Bur. Sci. 37388, 38816, & 44601, constitute the quickest and easiest way to distinguish C. merrillii from C. caudata. In the latter species the pubescence is stellate everywhere. Callicarpa merrillii -- named in honor of Elmer Drew Merrill (1876-1956), who first recognized it -- is also related to C. stenophylla Merr. and, more

distantly, to C. longifolia Lam. It has been found growing along small brooks in forests at low altitudes, flowering from April to June and August to December, and fruiting in February, April, June, and August to December. Vernacular names recorded for it are "katonal", "palis", and "tigau". Bakhuizen van den Brink (1921) reduces it to synonymy under what he calls C. cuspidata Roxb. and cites the Ramos & Edaño s.n. [Herb. Philip. Bur. Sci. 44601] collection. I regard C. cuspidata Roxb. as conspecific with C. pedunculata R. Br.

It should be noted here that the C. lancifolia of Millspaugh, referred to in the synonymy above, is a valid West Indian species, while that of Pavon and of Sessé & Mociffo is C. acuminata H.B.K.

Lam (1919) based his C. caudata var. simplicipuberula on "Merrill 10375" from Dumaguete in the Cuernos Mountains on eastern Negros, Philippine Islands, collected in June, 1908, but this is certainly an error in transcription for Elmer 10375. He describes the variety as "folia vix denticulata, subtus pilis simplicibus vestita", with young fruits in June.

Material of C. merrillii has been misidentified and distributed in herbaria under the names C. caudata Maxim., C. cuspidata Roxb., and C. longifolia Lam. On the other hand, the W. W. Clark s.n. [Herb. Philip. Forest Bur. 2534], McClure 15899, Mearns & Hutchinson 4755, M. Ramos s.n. [Herb. Philip. Bur. Sci. 43310], Ramos & Edaño s.n. [Herb. Philip. Bur. Sci. 49295], Ramos & Pasgasio s.n. [Herb. Philip. Bur. Sci. 34775], and R. S. Williams 2307, distributed as C. merrillii, are actually C. caudata Maxim.

In all, 19 herbarium specimens, including type material of one of the names involved, have been examined by me.

Citations: PHILIPPINE ISLANDS: Basilan: DeVore & Hoover 41 (W-449518). Luzon: F. Manuel s.n. [Herb. Philip. Forest Bur. 23489] (W-1376041); Ramos & Edaño s.n. [Herb. Philip. Bur. Sci. 44601] (B, Bz-17515, Ca-257638, N). Mindanao: Fénix s.n. [Herb. Philip. Bur. Sci. 15802] (W-900327); Mearns & Hutchinson s.n. [May 1906] (N); E. D. Merrill 8115 (W-901911); Ramos & Edaño s.n. [Herb. Philip. Bur. Sci. 37388] (Bz-17522, W-1260271); C. B. Robinson s.n. [Herb. Philip. Bur. Sci. 11802] (W-714476); R. S. Williams 2307 (W-707892). Mindoro: M. Ramos s.n. [Herb. Philip. Bur. Sci. 38816] (Bz-17521), s.n. [Herb. Philip. Bur. Sci. 39816] (W-1261106). Negros: Elmer 10375 (Bz-17524, N, W-705853). Ticao: W. W. Clark s.n. [Herb. Philip. Bur. Sci. 2534] (W-626216).

CALLICARPA MICRANTHA Vidal, Phan. Cuming. Philip. 134 & 187-188. 1885.

Bibliography: Vidal y Soler, Phan. Cuming. Philip. 134 & 187-188. 1885; Vidal y Soler, Rev. Pl. Vasc. Filip. 208. 1886; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 386. 1893; H. J. Lam, Verbenac. Malay. Arch. 47, 59, & 362. 1919; Bakh. in Lam & Bakh.,

Bull. Jard. Bot. Buitenz., ser. 3, 3: 23. 1921; E. D. Merr., Enum. Philip. Pl. 3: 386. 1923; Moldenke, Known Geogr. Distrib. Verbenac., ed. 1, 62 & 87. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 386. 1946; Moldenke, Known Geogr. Distrib. Verbenac., ed. 2, 141 & 177. 1949; Moldenke, Résumé 183 & 144. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 386. 1960; Moldenke, Phytologia 14: 142 (1966), 14: 225, 228, & 230 (1967), 15: 21 (1967), and 21: 36. 1971.

Shrub, 3 m. tall; trunk 10 cm. in diameter; branchlets slender, round, stellately farinose or tomentose; leaves decussate-opposite; petioles 4 mm. long; leaf-blades chartaceous, ovate-lanceolate or lanceolate, 6 cm. long, 2 cm. wide, acutely acuminate at the apex, serrate along the margins except near the base, acute at the base, more or less densely pubescent with simple hairs above, stellate-tomentose and glandulose beneath; secondaries 6—8 pairs; inflorescence stellate-farinose or -tomentose, the cymes small, 2 cm. long; peduncles 5—10 mm. long; calyx 1—1.5 mm. long, somewhat stellate-pubescent and glandulose, its rim with 4 subacute deltoid teeth; corolla white or violet-pink, 3 mm. long, sparsely pubescent, with 4 lines of glands along the tube and on the lobes, the lobes 1—1.5 mm. long; stamens yellow, exserted, 4—4.5 mm. long; anthers ellipsoid, densely glandulose on both sides; style 5.5 mm. long; stigma capitate; ovary densely glandular on the upper half, glabrous on the lower half; fruiting-calyx and fruit not known.

The type of this species was collected by Hugh Cuming (no. 1165) in the province of Albay, Luzon, Philippine Islands. This is the only collection cited by Vidal y Soler on page 134 of his work (1885), where he designated the binomial as "n. sp." On pages 187—188 he adds "Herb. Prop. 1641 Prov. Abra". Lam (1919) cites a Cuming s.n. from Luzon, deposited as sheet number 908. 158—383 in the Rijksherbarium at Leiden, as well as a "Ccm. d. 1. fl. for. d. Fil. no. 1641, Abra". He also cites, with a question, a "Teysmann, H. Bog. no. 8942" from Tanini, Timor, and notes "The doubtful specimen: Korthals in H. L.—B. sub no. 908. 265—958, gives no locality".

Bakhuizen van den Brink (1921) reduces this species to synonymy under what he calls C. cuspidata Roxb. I regard Roxburgh's name as belonging in the synonymy of C. pedunculata R. Br.

It is not at all certain that C. micrantha may not prove, after all, when type material is available for study, to be conspecific with some other taxon. The Ramos & Edaffo s.n. [Herb. Philip. Bur. Sci. 45614], distributed as C. micrantha, matches perfectly the type collection of C. elegans Hayek and therefore is regarded by me as representing the latter species, while Ramos & Edaffo s.n. [Herb. Philip. Bur. Sci. 46955] is C. formosana f. angustata Moldenke. Callicarpa micrantha actually is a taxon known to me only from the literature listed above. It represents only one of the many problems that still must be solved before a formal monograph of the genus, with a key to accepted taxa, can be pub-

lished.

CALLICARPA MOLLIS Sieb. & Zucc., Fl. Jap. Fam. Nat. 526. 1844
[not C. mollis Koord., 1966, nor Matsumura, 1922, nor Req.,
1839, nor Shirasawa, 1949, nor Willd., 1840].

Emended synonymy: Callicarpa zollingeriana Schau. in A. DC.,
Prodr. 11: 640. 1847. Callicarpa farinosa Sieb. ex Miq., Ann.
Mus. Lugd.-Bat. 2: 99, in syn. 1865 [not C. farinosa Roxb., 1885].
Callicarpa farinosa Sieb. & Zucc., in herb. Callicarpa mollis
var. mollis Mizushima, in herb.

Bibliography: D. Dietr., Syn. Pl. 1: 428. 1839; Sieb. & Zucc.,
Fl. Jap. Fam. Nat. 526. 1844; Sieb. & Zucc., Abhand. Math.-phys.
Cl. Königl. Baier. Akad. Wiss. Münch. 4 (3): 155—156. 1846;
Sieb. & Zucc., Fl. Jap. Fam. Nat. 2: 155—156. 1846; Schau. in
A. DC., Prodr. 11: 640. 1847; Walp., Ann. Bot. Syst. 3: 237.
1852; A. Gray in M. C. Perry, Narr. Exped. China Seas & Japan 2:
316. 1856; Miq., Ann. Mus. Lugd.-Bat. 2: 99. 1865; Miq., Prol.
Fl. Jap. 31. 1866; Miq., Cat. Mus. Bot. Lugd.-Bat. 70. 1870;
Franch. & Savat., Enum. Pl. Jap. 1: 359. 1875; Lauche, Deutsche
Dendrol., ed. 2, 151. 1883; Maxim., Mém. Biol. 12: 504—505.
1886; Forbes & Hemsl., Journ. Linn. Soc. Lond. Bot. 26 [Ind. Fl.
Sin. 2]: 254. 1890; Jacks. in Hook. f. & Jacks., Ind. Kew., pr.
1, 1: 386. 1893; Tasiro, Bot. Mag. Tokyo 8: 109. 1894; Shirasawa,
Bull. Coll. Agric. Tokyo Imp. Univ. 2: [Jap. Laubh. Winterzust.]
269, pl. 14 [Tafel 10], fig. 8. 1895; Briq. in Engl. & Prantl,
Nat. Pflanzenfam., ed. 1, 4 (3a): 166. 1895; Koord., Meded. Lands
Plant-tuin Buitenz. 19: 558. 1898; J. Matsum., Bot. Mag. Tokyo
13: 114. 1899; Kuroiwa, Bot. Mag. Tokyo 14: 126. 1900; W. P.
Wright in Cassell, Dict. Pract. Gard., ed. 1, 1: 156. 1902; Beis-
sner, Schelle, & Zabel, Handb. Laubh. 425. 1903; Rehd. in L. H.
Bailey, Cycl. Amer. Hort. 1: 217. 1906; W. P. Wright in Cassell,
Dict. Pract. Gard., ed. 2, 1: 156. 1907; Shirasawa, Nippon Shin-
rin Jumoku Dzufu [Ic. Ess. Forest. Jap.] 2: pl. 70. 1908; Nakai,
Fl. Kor. 2: 134. 1909; Mak., Bot. Mag. Tokyo 24: 28—29. 1910; C.
K. Schneid., Ill. Handb. Laubholz. 2: 587, 591, & 593, fig. 382
g—i & 385 b—g. 1911; J. Matsum., Ind. Pl. Jap. 2 (2): 529.
1912; Rehd. in L. H. Bailey, Stand. Cycl. Hort. 2: 629. 1914; Na-
kai, Fl. Quelp. Isls. 76. 1915; W. Trelease, Wint. Bot., ed. 1,
331. 1918; H. J. Lam, Verbenac. Malay. Arch. 51, 92, & 362. 1919;
E. H. Wils., Journ. Arnold Arb. 1: 183. 1920; Bakh. in Lam &
Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 11 & 24. 1921; Nakai,
Bot. Mag. Tokyo 36: 22. 1922; Nakai, Trees & Shrubs Indig. Jap.,
ed. 1, 338. 1922; Nakai, Fl. Sylv. Kor. 14: 31—33 & 133, pl. 9.
1923; Mak., Ill. Fl. Jap. [894]. 1924; Sakaguchi, Gen. Ind. Fl.
Okin. 18. 1924; W. Trelease, Wint. Bot., ed. 2, 333. 1925; Rehd.,
Man. Cult. Trees, ed. 1, 776. 1927; Nakai in Nakai & Koidz.,
Trees & Shrubs Indig. Jap., ed. 2, 1: 456—458, fig. [217]. 1927;
Masam., Prel. Rep. Veg. Yak. 115. 1929; Stapf, Icon. Bot. Ind.
Lond. 1: 526. 1929; Mak. & Nemoto, Fl. Jap., ed. 2, 994. 1931;
Mak., Gensyoku Yagai-shokubutu [Nature-Col. Wild Pl.] 4: 281.
1933; Terasaki, Nippon Shokubutsu Zufu [Jap. Bot. Illustr. Album]

1593. 1933; Crevost & Pételot, Bull. Econ. Indo-Chine 37: 1290. 1934; Masam., Fl. & Geo. Yakus. 387. 1934; Moldenke in Fedde, Repert. Spec. Nov. 39: 295, 297, & 298 (1936) and 40: 38, 40, 43, 86, 115—116, 120, & 125. 1936; Nemoto, Fl. Jap. Suppl. 622. 1936; Moldenke, Alph. List Common Vern. Names 16, 22, & 33. 1939; Moldenke, Geogr. Distrib. Avicenn. 36. 1939; Mak., Ill. Fl. Nippon fig. 562. 1940; Moldenke, Prelim. Alph. List Invalid Names 10, 12, & 13. 1940; Moldenke, Carnegie Inst. Wash. Publ. 522: 199. 1940; Rehd., Man. Cult. Trees, ed. 2, pr. 1, 803, 804, & 932. 1940; Worsdell, Ind. Lond. Suppl. 1: 160. 1941; Moldenke, Known Geogr. Distrib. Verbenac., ed. 1, 57, 58, 71, & 87. 1942; T. H. Everett, Cat. Hardy Trees & Shrubs 16. 1942; Moldenke, Alph. List Invalid Names 9—11. 1942; Moldenke, Phytologia 2: 95. 1945; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 386. 1946; Moldenke, Bol. Soc. Venez. Cienc. Nat. 11: 49. 1947; Hara, Enum. Sperm. Jap. 1: 185. 1948; H. N. & A. L. Moldenke, Pl. Life 2: 90. 1948; Moldenke, Alph. List Cit. 2: 490 & 577 (1948) and 4: 984, 1081, 1145, 1224, & 1289. 1949; Rehd., Bibliog. Cult. Trees 584. 1949; Moldenke, Known Geogr. Distrib. Verbenac., ed. 2, 133, 134, 157, & 177. 1949; Moldenke, Phytologia 3: 139 (1949) and 3: 380. 1950; H. N. & A. L. Moldenke, Anal. Inst. Biol. Mex. 20: 4. 1950; W. J. Bean, Trees & Shrubs Hardy Brit. Isles, ed. 7, 1: 334. 1950; W. J. Bean in Chittenden, Roy. Hort. Soc. Dict. Gard. 1: 358 & 359. 1951; Moldenke, Phytologia 4: 75. 1952; Masam., Sci. Rep. Kanazawa Univ. 4 [Enum. Trachy. Jap. 7]: 46. 1955; Hara, Distrib. Maps Flow. Pl. Jap. 51. 1958; Moldenke, Am. Midl. Nat. 59: 335. 1958; Krüssmann, Handb. Laubgeh. 1: 254 & 255. 1959; Hara, Outline Phytogeog. Japan 1 & 34. 1959; Moldenke, Résumé 171, 172, 214, 243, 245, 248, 427, & 444. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 386. 1960; Krüssmann in Encke, Pareys Blumengärt., ed. 2, 2: 446. 1960; Kitamura & Okamoto, Col. Illustr. Trees & Shrubs Japan 220. 1960; Rehd., Man. Cult. Trees, ed. 2, pr. 9, 803, 804, & 932. 1960; Moldenke, Résumé Suppl. 3: 18 (1962) and 4: 8. 1962; Li, Morris Arb. Bull. 14: 3, 4, & 7. 1963; Ohwi, Fl. Jap. 764 & 998. 1965; Griffith & Hyland, U. S. Dept. Agr. Pl. Inventory 164: 197 & 229. 1966; Moldenke, Phytologia 13: 431 & 433 (1966), 14: 53, 140, & 142 (1966), 14: 254 (1967), and 15: 30. 1967; Hyland, U. S. Dept. Agr. Pl. Inventory 168: 49. 1967; Moldenke, Phytologia 16: 377 & 386. 1968; Moldenke, Résumé Suppl. 16: 17 & 18 (1968) and 17: 8. 1968; K. Sugawara, Ecolog. Rev. 17: 213. 1969; Hyland, U. S. Dept. Agr. Pl. Inventory 173: 60. 1969; Moldenke, Phytologia 21: 35, 41, 42, 45, & 154. 1971.

Illustrations: Lauche, Deutsche Dendrol., ed. 2, 151. 1883; C. K. Schneid., Ill. Handb. Laubholz. 2: 587 & 593, fig. 382 g—i & 385 b—g. 1911; Nakai, Fl. Sylv. Kor. 14: pl. 9. 1923; Mak., Ill. Fl. Jap. [894] (in color). 1924; Nakai in Nakai & Koidz., Trees & Shrubs Indig. Jap., ed. 2, 1: 457, fig. [217]. 1927; Terasaki, Nippon Shokubutsu Zufu [Jap. Bot. Illustr. Album] 1593. 1933; Mak., Gensyoku Yagai-shokubutu [Nature-Col. Wild Pl.] 4: 281. 1933; Mak., Ill. Fl. Nippon fig. 562. 1940; Kitamura & Okamoto, Col. Illustr. Trees & Shrubs Japan 220. 1960; Li, Morris Arb. Bull. 14: 4, fig. 1—6. 1963.

Shrub or small tree, 2--5 m. tall; stems to 5 cm. in diameter; branches slender, spreading in horizontal fashion, subterete or very obsoletely tetragonal, occasionally slightly flattened at the nodes, glabrous, with gray bark; branchlets very slender, terete, grayish-brown or dark-purple, densely furfuraceous-pubescent or short-tomentose with sordid many-branched hairs; internodes usually abbreviated, 1--3.5 cm. long, occasionally to 6.5 cm. long; leaves decussate-opposite; petioles slender, 3--7 mm. long, densely pubescent or tomentose; leaf-blades membranous or chartaceous, herbaceous, often somewhat darker green above than beneath, varying from lanceolate to oblong or elliptic, 4.5--12 cm. long, 1.6--5.3 cm. wide, long-acuminate or caudate at the apex, rather sharply and irregularly serrate along the margins except on the acumination and at the base, rounded to a very obtuse or truncate (or rarely acute) base, densely short-pubescent or pilose above, densely farinaceous-pubescent with sordid and more or less stellate hairs beneath; midrib slender, prominent beneath; secondaries very slender, 5--7 per side, ascending, not very arcuate, usually obscure above, hardly at all or but very slightly prominent beneath; vein and veinlet reticulation fine and delicate, usually obscure; inflorescence axillary; cymes usually solitary, rarely paired, opposite, 1--2 cm. long and wide, rather few-flowered, often only once furcate, not branched, conspicuously bracteolate; peduncles very slender, 4--9 mm. long, pubescent or pilose; pedicels very slender, 1--3 mm. long, pubescent or pilose; bractlets linear, to 10 mm. long and 2 mm. wide; flower-buds dark-purple; flowers fragrant; calyx extraordinarily large, spreading campanulate-infundibular, 5--7.3 mm. long in all, 5 or more mm. wide, densely tomentose with irregularly branched hairs, its rim very deeply 4-fid, the divisions lanceolate, about 3.2 mm. long, sharply acute at the apex; corolla hypocrateriform, purple or orchid-purple to mallow-pink, its tube broadly cylindrical, 3.9--4.7 mm. long, very much ampliate above, the limb 4-parted, the lobes ovate-lingulate, about 2.6 mm. long and 1.9 mm. wide, blunt at the apex, venose; stamens 4, inserted at the base of the corolla-tube, exserted; filaments filiform, 4--5.3 mm. long, glabrous; anthers large, oblong, about 2.1 mm. long and 1.1 mm. wide; pistil exserted and surpassing the stamens; style capillary, about 8.3 mm. long, glabrous, ampliate above into the stigma; stigma depressed-capitate, about 0.8 mm. wide; ovary subglobose, about 0.8 mm. long and wide, granulose-pulverulent, 4-celled; fruit purple or purplish-lilac to orchid-purple, purplish even when young, glossy.

The type of this species was collected by Philipp Franz von Siebold in Japan, not by "K. Th. E. von Siebold and J. G. Zuccarini" as erroneously stated in Fedde, *Repert. Spec. Nov.* 40: 116 (1936). Some recent collectors refer to the leaves as "opaque above" or "opaque on both sides", but what is meant by these statements is not clear to me. The corollas are described as "purple" on Charette 1738 and S. Suzuki SI.55, "mallow-pink" on Yamozaki 34, and "orchid-purple" on Charette 1564.

The species has been found growing in forests, summer-green forests, and deciduous broad-leaved forests, copses and thickets, damp woods, open borders and roadsides, and in humus in half-shade on mountainsides, at the base of and borders of ravines, and on open forested banks, at altitudes of 20 to 1000 meters, flowering from May to August and in November, fruiting in June, August, October, and November. Vernacular and common names recorded for it are "chobsalnam", "kaipinam", "ko isi wara", "kottsabinam", "namainoki", "weichhaarige Schönfrucht", "yabumurasaki", "yabumurasaki", "yabu-murasakishukibu", "yahumurasaki", and "yama-murasaki".

Suzuki tells us that the species is occasional in the shrub layer in sunny, moderately humid, windy, loam soil, with human disturbance, in deciduous oak forests. Wilson reports it "common" on Quelpart Island. Yamozaki says that it is "used as a garden tree" on Shikoku. Bean (1951) avers that it was introduced into cultivation [in England] in 1863. Li (1963) says that "It was first introduced by Richard Oldham in 1861—63 to Kew. It is still raised at Kew in a sheltered spot but is not as hardy nor as handsome as C. Bodinieri var. Giraldii. It is not certain whether the plant at present is in cultivation in America." The Herb. Bogor. 18099 collection, cited below, bears no indication on its label that it came from cultivated material, but this seems most probable.

A hybrid between C. mollis Sieb. & Zucc. and C. japonica Thunb. is known as xC. shirasawana Mak. This and its synonyms, C. mollis Shirasawa and C. mollis x japonica Schneid., are often placed in the synonymy of C. mollis (as, for example, by Bakhui-zen van den Brink in 1921 and by me in my earlier publications), but are discussed separately herein. The illustration given by Shirasawa (1895) as C. mollis represents the hybrid instead.

It is worth noting here that the Miquel (1865) reference given in the synonymy and bibliography above is dated "1866" by Bakhui-zen van den Brink (1921), that of Masamune (1955) is often cited as volume "6", and that of Siebold & Zuccarini (1846) as "(1): 526. 1844", which is definitely not correct, the "526" being the species number and not the page number, and 1844 is the date for part 1 of this work. The C. mollis of Koorders, referred to in the same synonymy above, is a synonym of C. caudata Maxim., that of Matsumura is C. oshimensis var. okinawensis (Nakai) Hatus., that of Shirasawa is xC. shirasawana Mak., while that of Requier and of Willdenow is C. acuminata H.B.K., and the C. farinosa of Roxburgh is C. tomentosa (L.) Murr.

The description of C. mollis by Siebold & Zuccarini (1846) is worth repeating here because it is not available in many libraries in the original: "ramis teretibus novellis canescentibus, foliis petiolatis e basi rotundata vel rarius attenuata ovato-oblongis vel oblongo longe acuminatis, basi et in acumine integerrimis ceterum inaequaliter serratis, superne pilis simplicibus molliter

villosis subtus pilis stellatis villosis, glanduloso-punctatis, cymis petiolum triplo superantibus cano-villosis 7--11-floris calycibus cylindricis profunde quadrifidis laciniis lanceolatis acutis corollis extus villosis, staminibus exsertis, antheris oblongis, obtusis rima dehiscentibus in connectivo glandulosis, stigmatе capitato incrassato. Rami juniores pilis stellatis furfuraceo-canescens. Folia petiolate petiolis circiter 8" longis, e basi rotundata raro attenuata ovata-oblonga, vel superiora nonnumquam oblongo-lanceolata longe acuminata, 1 1/2 -- 4" longa, 6--8" lata, inaequaliter serrata, superne pilis simplicibus subtus stellatis villosis-canescens, utrinque glandulis pellucidis punctata. Cymae axillares vel supraaxillares strictae vix quartam folii partem aequantes, pilis stellatis dense villosae. Calyx cylindricus laciniis tubum fere superantibus lineari-lanceolatis acutis. Antherae pro ratione magnae basi bifidae, dorso, glandulae. Stylus cylindricus stamina parum superans, stigmatе incrassato truncato. Variat floribus pentameris pentandris."

Nakai (1923) describes the plant as "Frutex 3--5 metralis ramosus. Ramus juvenilis viridis stellulato-subvelutino-tomentosus. Petioli 3--10 mm. longi stellulato tomentosi. Lamina ovata v. obovata v. elliptica mucronato v. argute brevique serrata apice caudato-attenuata supra erecto-pilosa infra erecto-stellatopilosa utrinque resinose-punctata. Inflorescentia supra axillaris dense stellulata oligantha. Calyx alte 4-fidus, lobis lanceolatis stellato-tomentosis. Corolla dilute purpurea extus pubescens. Antherae ellipticae glandulosae. Fructus dilute purpureus diametro 5 mm."

Li (1963) describes it as a "Shrub, 2--5 m. tall, much-branched, the branchlets densely stellate-tomentose. Leaves obovate-elliptic to oblong-lanceolate, the apex acuminate, the base rounded, the margins serrulate, sparsely tomentose above, stellate-tomentose beneath, glandular on both surfaces; petioles 3--10 mm. long. Cymes axillary, short-peduncled or nearly sessile, densely flowered, the peduncles as long as the petiole, stellate-tomentose; calyx deeply 4-lobed, stellate-tomentose; corolla lilac-pink, glandular outside; stamens not exceeding the corolla lobes. Fruit globose, dull purple, about 5mm. across."

Krüssmann (1960) says "Ähnlich C. bodinieri, aber Zweige mehr halbstrauchig, ganz dicht weich behaart. Blätter elliptisch bis länglich-lanzettlich, lang zugespitzt, 5--10 cm lang, oberseits stumpfgrün, unterseits dick sternhaarig, gezähnt. Blüten rosa. Staubblätter so lang wie die Kronabschnitte. Früchte trüblila. -- 1863. N.T. 1: 57; N.K. 14: t. 9. Kaum ausreichend winterhart, auffallend durch die starke Behaarung."

It should be noted that the name, Callicarpa mollis, is not precluded for this taxon under the present International Rules of Botanic Nomenclature because the C. mollis of Willdenow, effectively published 4 years earlier, was published in synonymy only and is therefore not regarded as having been published validly.

Masamune (1955) includes in the synonymy of C. mollis the name "Callicarpa japonica Thunb." of Tasiro (1894), but with a question.

He also regards the "C. mollis" of Matsumura (1899 & 1912, insofar as Ryukyu specimens are concerned), Kuroiwa (1900, in part), Wilson (1920), and Sakaguchi (1924) as referring to C. oshimensis var. okinawensis.

Sugawara (1969) tells us that the true C. mollis grows in the shrub layer in plantations of Cryptomeria japonica. Ohwi (1965) provides us with a key to the Japanese species of the genus, for which see under C. dichotoma in the present series of notes.

As to the natural geographic distribution of C. mollis, Nakai (1923) says "Hondo, Shikoku et Kiusiu", Li (1963) says "This species is native to Japan and Korea", Masamune (1955) says "Tanggesima; Kurosima; Yakusima; Iriomote; Honsyu; Sikoku; Kyusyu; Taiwan; Corea", and Ohwi (1965) says "Honshu (Rikuchu Prov. and southw.), Shikoku, Kyushu. — Korea". Hara (1958) unites var. microphylla Sieb. & Zucc. with the typical form of the species and gives the combined distribution as "Japan, Korea, Ryukyu, and Formosa".

Actually, I have found no specimens among those examined by me that were really collected in the Ryukyu Islands. The so-called records from these islands as given by Matsumura and Masamune are probably based on misidentifications of material that will prove to have been C. oshimensis Hayata and/or C. oshimensis var. iriomotensis (Masam.) Hatus. and C. oshimensis var. okinawensis (Nakai) Hatus.

Miquel (1870) cites Bürger 5 [specimens?], Siebold 4 [specimens?], Textor 3 [specimens?], Maximowicz 1 [specimen?], Oldham 1 [specimen?], Mohnike 1 [specimen?], and C. Wright 1 [specimen?].

Material of C. mollis has been misidentified and distributed in herbaria under the names C. cuspidata Roxb., C. japonica Thunb., C. kochiana Mak., and Elaeagnus glabra Thunb. On the other hand, the Oldham 620, distributed as C. mollis, is actually C. japonica Thunb., Albrecht s.n. [1861] and Hort. Tjibodasensis P. are C. japonica var. rhombifolia H. J. Lam, and J. Matsumura s.n. is C. oshimensis var. okinawensis (Nakai) Hatus.

The U. S. Dept. Agric. Pl. Inventory 235499, 263642, & 304937, cited by Griffith & Hyland (1966) and by Hyland (1967, 1968), were all grown in Maryland from seed collected in Japan, the first-mentioned being the seed of J. L. Creech 509.

In all, 115 herbarium specimens and 3 mounted photographs of C. mollis have been examined by me.

Citations: KOREA: Witford s.n. (T). KOREAN COASTAL ISLANDS: Quelpart: Faurie 1892 (Du--14019, V--127); Kitamura s.n. [19 Jul. 1930] (M1); E. H. Wilson 9525 (W--1054201). JAPAN: Hiradoshima: Weiss 1138 (Bz--18101). Honshu: Charette 1555 (Ca--77252, Dt, S, W--2247697), 1564 (Ca--77440, W--2247702), 1738 (Ca--77469, Dt, S, W--2247797); Collector undetermined 362 (W--9981); Furuse s.n. [11 July 1955] (S), s.n. [18 July 1955] (S). To be continued.